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May 7. 1845

James M. Bride
Hamilton
Ohio.

ACADEMY OF NATURAL SCIENCES

OF

PHILADELPHIA.

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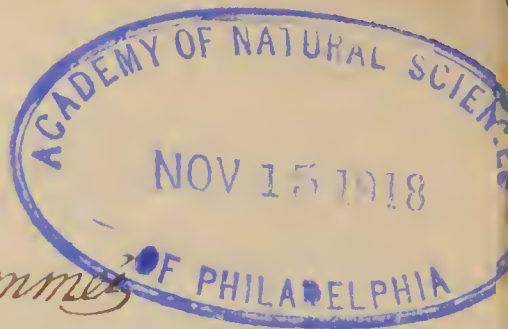
Wm. S. Vaux

SYMMES (John Cleves), b. on Long Island, N. Y., July 21, 1742, was a member of the Continental Congress 1785-86; judge and chief-justice of the supreme court of New Jersey; was appointed judge of the North-west Territory 1788, and was the founder of the settlements in the Miami Valley. D. at Cincinnati Feb. 26, 1814.

SYMMES (John Cleves), nephew of the preceding, b. in New Jersey about 1780; entered the army as an ensign 1802; was a captain in the war of 1812, serving on the Niagara frontier; settled at Newport, Ky., and made himself notable throughout the West by propounding a theory that the earth is hollow, open at the poles, and habitable within, containing several other concentric hollow spheres. He published several arguments and delivered many lectures (from about 1818) in support of his theory, and petitioned Congress to fit out an expedition to test it. D. in poverty at Hamilton, O., May 19, 1829. A son of his has recently (1876) revived the theory.

(From Johnson's New Illustrated Universal Cyclopaedia - A Scientific and Popular Treasury of Useful Knowledge)

A Lecture delivered by
Capt. John Cleves Symmes



To a large and respectable audience at Cincinnati
on the 25th of March 1820. On the subject of
his Theory of the Earth, corrected since delivered
and several marginal notes added.

Ladies and Gentlemen,
I feel great diffidence
in thus presenting myself, personally to explain
before so numerous and respectable an audi-
-ence, the many reasons I have to offer, in favor
of my Theory of the earth; the importance of
the subject however inspires me with a degree
of confidence, I should otherwise need.

I regret that my recent unsettled situa-
-tion and present attempt at business, have
prevented me from applying my undivided at-
-tention, to make the best possible use of the ad-
-vantages (so politely afforded me by the invi-
-tation of Dr. Drake,) to sum up and explain,
thus publicly the various arguments, I possess
in favour of my new system. I however,

feel confident my cause will derive much advantage from the occasion, by means of the facility it will afford, in explaining more fully my various ideas on the subject.

I trust there is not much formality necessary in introducing myself to you, for although I have been absent for nearly eighteen years past, in the army and elsewhere, my family name is well known here, particularly amongst the early adventurers in these lately western wilds.

I presume there are few if any, present, who have not read my first declaratory circular dated 10th April 1818. wherein I declared the earth to be hollow and habitable within, and constituted of a number of concentric spheres, open at their poles twelve or sixteen degrees.

In support of this declaration, I have published from time to time, in the news papers of the day summaries of such reasons as lead me to the discovery, as well as such other reasons as afterwards occurred to me, in support of it. I wish now to draw your notice, to as many of those reasons as the time I have limited myself to tax your attention will admit of summing up: for such however as do not admit of being summed

up in a few words, I shall be under the necessity of referring you to my numbers as they are recorded on the files of the national Intelligencer and other gazettes.

The first principle of my position (which principle is contained in my second number or memoir) shews that which I deem the geometrical necessity of matter when poised in space otherwise vacant and operated on by the principle of gravity, together with a rotatory motion, balancing into such form as would constitute concentric spheres in conformity to what I have declared to exist, not only in this earth, but in all planetary bodies, including as well the fixed stars and their satellites, as the sun and all the subordinate planets, we are acquainted with in the solar system.

This first principle, which is what led me to originate declare and defend my theory, may be explained in the fewest words thus. On the surface of a cup of sand, describe a circle near the middle of the cup, but not exactly at the centre. It is evident (as matter gravitates matter in proportion to quantity and distance) that the sand within the circle, provided the particles attract one another as the particles of planets do, is almost as much attracted towards one verge

of the cup, as it is towards the other, owing to its being almost equally surrounded by matter or sand, and therefore can be very little if any gravitated centrewise, hence being in a degree suspended, only a horizontal rotary motion is needed to whirl it, compactly towards the rim or sides of the cup into a circular form, it hence follows according to this principle, that those particles of sand lying equally distant from the inner side of the circle of sand thus formed and the outer side, would be in like manner balanced or suspended, by being equally gravitated in both directions: hence a disposition would be produced, to form into concentric circles. And it would therefore follow, that successive, similar dispositions, to subdivision, should occur, gradually lessening in force and quantity. by applying this principle to the earth, and all rotary planets, I found the necessity of hollow concentric spheres; the same principle applied to the poles of such spheres, when in a rotary motion, indicated to me the necessity of open poles such as I have proclaimed.

Thus far I conceive I have shown that my main position or theory, is founded on geometric

and self evident principles; we are therefore bound to not reject it as false unless facts or circumstances can be shown to disprove it, and thereby show that the calculation is futile. I presume no such facts or circumstances can be adduced, no one of us have examined the poles or the inner parts of the earth, hence have not a single fact to disprove the truth of my position.

A strong experimental proof, in support of the principle just stated, is the well known fact that an assemblage of small magnetic particles of matter, iron filings for example, when sifted on a paper under which a load stone is held, will form into concentric circles on the surface of the paper.

I trust I need not add many words to show how strongly this proof is in point. It shows that the principle I have just detailed does exist in nature. That such principles also exist in our planetary system, in one instance at least, we have undisputed ocular demonstration, for in a telescopic view of Saturn, at certain seasons or periods of time, the body of that planet, is seen surrounded with two bodies, rings or volumes of matter, between which rings and the body of the planet, there is a vacant space of considerable extent, through which stars have been seen.

I say when we all do, or can see that this principle obtains in at least one planet of the solar system, is it not a fair and just conclusion, is it not a matter of necessity, if we draw any conclusion whatever about the formation of the internal parts of other planets, whose inner parts we do not see; or in relation to our own planet in particular, the poles of which we have not explored; is it not I repeat, a matter of necessity, that we conclude both by principle and analogy, that all planets are formed on a model more or less similar to that of Saturn; unless we have some undisputable proof of the contrary which I presume we have not. Therefore analogical reasoning justifies, as well as principle substantiates, my declaration.

The planet Mars exhibits to our view strong proofs of my theory. He is sometimes seen with several concentric circles around one of his poles and sometimes around the other, according as either of his poles, is more or less in opposition to us, these circles are alternately light and dark, exactly as should be the case; supposing his formation such as I have declared that of the earth to be: sometimes Mars is seen with a single ring at each pole, at such times his axis is nearly at

right angles, with a line drawn from the earth to Mars. I shall presently evidence how this may happen, by submersing in a glass of water, a small wooden globe with open poles, the refraction of the water answering to a supposed celestial refraction, produced by means of the dense atmosphere of Mars; the refraction of the water, I say, appears to throw out the further verges of the polar openings, so as to cause them to appear somewhat like extended rings.

I consider these phenomena in Mars, as very substantial proofs of my system, scarcely less strong than those relating to Saturn.

Venus, our next neighbour planet, on the side nearest the sun, also shows some strong proofs, although being between us and the sun, seems to prevent the favourable opportunity of an examination of her poles, which is afforded in the examination of the poles of Mars, who is our next neighbour planet on the side opposite to the sun. we however at times see by the aid of the telescope, a deficient space near the tip of one of the horns of Venus, when she is a crescent, or nearly a crescent, which is what should appear, supposing her to be constituted of concentric spheres with open poles, and supposing one of the vacant spaces

between two of her spheres, about one of her polar openings, to traverse her horn or cusp, at the place where the dark space occurs. At other times one of the horns or cusps of Venus, is seen to wind inwards into the body of the planet, extending fifteen degrees longer than the other horn, this is as it should be, supposing Venus formed according to my theory, and supposing one of her horns, to terminate around the verge of a polar opening, in such way, as to follow the curve of the verge for some distance, hence run in on the body of the planet.

The belts seen round Jupiter, can be accounted for in no way better, than by supposing them some sort of concentric spheres, more or less fluid, a detailed explanation or theory of which, I have summed up, in a memoir on refraction, which I finished last summer, but which I have forbore to publish, until I see the world better disposed to bestow on it, sufficient attention to judge of it just and impartially.

The spots often seen on the body of the sun, as they are described by modern astronomers, are strong evidence in support of my theory, for some of the astronomers describe an inner surface, as

seen through vast holes, which constitute the spots.

I doubt not but the poles of the sun and of Jupiter would appear somewhat like those of Saturn's ring and the poles of Mars were it not that the two former never present their axis in any perceptible degree towards us, as the two latter do. Our satellite the moon too, never presents either pole towards us, hence, although her poles may be in some degree open, (notwithstanding her slow rotation on her axis.) yet, owing to her axis always being nearly at right angles with a line drawn from the earth to the moon, we are not enabled to see, whether they be open or not, especially as her atmosphere is so light, or rare, as to not produce much refraction; the many vast round deep caverns seen on the surface of the moon, appear as if they had once been polar openings, if so the moon must have been often imbalanced so as to change her axis, by other clashing or interfering moons or planetary bodies, since her outer sphere first became a solid; the spots of light seen at different periods, by different astronomers, on the surface of the moon near her poles, when she was on the face of the sun, in an eclipse of that luminary, are I presume best accounted

for, by supposing the sunshine, either at one of her polar openings, or through an annular cavity on her farther side, and appearing to us through one of her annular cavities on this side, and near her poles, these thoughts on the formation of the moon, have not heretofore been published as the previously enumerated circumstances and proofs have.

In enumerating those proofs which I have heretofore published, some slight variation may be observable in some of them, such alterations are to be ascribed to newly observed data, which have been recently acquired.

Those fire balls or meteoric stones which are sometimes seen fall to the earth, afford a very palpable proof. A proof we can both see and feel. Professor Silliman of Yale college in Connecticut, has preserved some of the fragments of one of those fire balls, and given the public an able and well arranged description of the attendant facts which occurred, when and where it fell. This fire ball it appears, fell in Connecticut, in 1807. and produced three distinct successive cannon-like reports. making three convulsive leaps or throes in its course, which were doubtless simultaneous with the explosion becoming less luminous at each throe, and

being quite extinguished at the third and last three showers of stones fell to the earth in a line with its course, the second shower fell five miles from the first, and the last shower three or four miles from the second, some of the fragments were found to be concave, and some convex, especially on those sides of the fragments which were glazed with a sooty crust-
 =ed surface as if vetrified by fire. These phe-
 =nomena are such as should occur, supposing the fire balls to have been a small satellite or erratic planet, at first fluid which had so con-
 =densed by the increased action of terrestrial gravity, acting on it in consequence of its sud-
 =den approach to the earth, so as to cause its fluid parts to crystallize, and form into at least three concentric spheres of solid and the latent heat and light set free, by such rapid conden-
 =sation producing the meteoric fire and flame (which in this case was almost equal in light, to that of the sun at midday.) so soon as the spheres thus become sufficiently solidified, to prevent the heated aerial fluid contained in mid-plane cavi-
 =ties of the spheres from passing out with freedom in case those fluids were expanded by the heat, or to let the atmosphere pass in. In case the

condensation within afforded a vacuum, the solid crusts of the spheres would in either case, be dis- ruptured successively, one after the other and loose their regular rotation, and fall in frag- =ments, to the earth. The fall of this body or cluster of matter, is not a solitary instance, others have fallen in all known parts of the earth, attended with phenomena, more or less similar.

These enumerated astronomical phenomena, are the proofs I draw from celestial facts, and I apply them by analogy. The Terrestrial facts that may be produced, are little less cogent. a- =mongst which the most prominent is the annual migration of fish every spring from the arctic seas towards the equator. some authors describe the shoals of herrings alone, to be equal in surface to the island of Great Britain, besides there, large shoals of mackerel, and many others of the mi- =gratory fishes, including whales are known to come down from the north in the spring.

We find the cold increase as we proceed north- =wards as far as the icy circle. if such continued to be the case, beyond the icy circle as far as the axis, and the earth were a compact and entire spheroid, according to the old theory.

where could all these fish breed, or if they even all went there in the autumn, and the sea did not freeze even at the pole, where could they all obtain food to winter them, so as to enable them to come down to us, in their best and fattest state, in the spring? This proof appears to me, to be so strong, that it would be a waste of time and words, to produce a minute application of it in support of my theory; let it suffice to say, that most or all of the marine phenomena of the northern regions, are such as they should be, supposing the earth to be formed as I have ascertained it to be, and supposing the inner or concave part of this our sphere, to be as habitable within, as it is without, at least as habitable by fishes, and indeed it would seem that it is more so, for most if not all, the fishes that migrate to us from the arctic circle, soon get poor here, and become scarcely worth taking.

It does not appear that the inner parts are altogether forsaken by the fish in summer for fat shoals of mackerel and herring are found to come down in autumn, as well as in the spring.

The seals migrate north twice each year, beyond the icy circle; once to produce their young, and again to complete the growth of their young, and return remarkably fat.

The history of the migratory fishes, affords strong grounds to conclude that the shoals we see, are like the swarms of bees from a hive, never to return, particularly the herring, and other smaller fishes, they are not known to return in shoals, and it is doubted by some writers on the subject whether any of them ever return north, and whether they are not intirely consumed by men and fish.

Another fact of importance, is that of the annual migration of quadrupeds, particularly Rein-deer, from North to South in the months of march and april, about Hudsons Bay and else where. It is stated in the Cyclopedia, that the Rein-deer, are seen in herds of eight or ten thousand each, coming down from the North in the spring months and they are known to return North in October, when the snows become deep. Hearne who travelled higher north on the continent of America, than any other civilized traveller has yet penetrated states that large droves of musk oxen, or short legged Buffalo, abound within the arctic circle, few of which ever come as far south as Hudsons Bay factories, he mentions seeing in the course of one day, several herds of these Buffalo of seventy or eighty in a herd, he also mentions several other facts, which I contend corroborate

my position. some of those facts he considered inexplicable, and some he attempted to explain one way, and some another. Amongst others, he states that the polar white Bears are very rarely found by any of the Indians in winter, and that their winter retreats appears to be unknown, that they are sometimes seen retiring sea ward on the ice in autumn, and that these Bears appear in numbers in the latter end of March, and bring their young cubs with them. He also states, that the white or arctic foxes, are some years remarkably plentiful, that they always come from the north, that their numbers almost exceed credibility, that it is well known that none of them ever migrate again to the northward, and that the naturalists are at a loss to know where they originate. He mentions that all kinds of game and fish are excessively plentiful there at one season, and as excessively scarce at another.

No one I presume will deny; but that there are strong corroborative facts in proof of my theory, otherwise why should the deer, unlike our Buffalo, proceed north instead of south, when pressed by snow and cold weather, did they not find a warmer climate, or at least,

a more mild and plentiful country, beyond the icy circle. If we should judge the internal surface of the earth, to be as much more favourable to the support of animal life, as the Reindeer are larger than our deer, and the white Bear larger than our bear, we would very naturally conclude that there are better countries within, than any we have yet seen without.

The surface within, being as I state, concave, but little wind can be supposed to occur on the surface, hence the temperature of the air, must be more uniform than it is with us, for apparently owing to the winds we often have cold weather in summer, and hot in winter; in such case, it must be difficult to sail on the internal oceans: but the late improvements in the application of the power of steam, may obviate that difficulty, and the deficiency of wind would favour the use of steam vessels on the interior seas.

To sum up more minute reasons, in support of my theory would appear as if I did not build as strongly, on the force of those already enumerated, as I ought; and hence lead my auditors, to do the same. However, as most of those reasons, and many others, have been nearly two years before the world without

having produced any sensible effect, in favor of my hypothesis, I shall proceed to add to them, as far as my limited time will allow.

Hearne states, that swans, geese, brants, ducks and other wild water fowl, are so numerous about Hudsons bay, in the spring and summer that the company every season, salt up vast quantities of them, sometimes sixty hogheads; he states, that there are ten species of geese, most of which, particularly the white or snow geese, raise their young in some country unknown to the Indians, as their eggs or young ones are never seen by them; and that it is not known where they winter, and that but few of them ever pass to the south of the southern parts of Hudsons bay. Most of these fowls moult, or shed their feathers in a peculiar manner, in summer, and become nearly naked; hence it would seem that such must breed while absent in winter, for it is not likely they would lay and sit while moulting.

Whereas, the migrating geese and ducks of this country, are not known, to shed their feathers in any great degree, and they are well known to raise their young in the summer, whilst to the north of us, it may therefore be inferred, that many of those water fowls, which

Heerne describes bread beyond the icy circle and, ^{within the sphere} as many of the ten kinds of geese he saw there are unknown further south, it shows that they do not come south to winter.

There are some nations, high north, which are of a much darker colour, than our neighbouring savages are, notwithstanding the cold climate, they at present inhabit. How can we better account for this, than by supposing them to have originally emigrated, from a hot, and perhaps crowded country beyond, and towards the internal equator.

History shows that northern nations, both in Europe and America, emigrate, and press down, upon more southern ones, until they finally, in the course of many ages, arrive at the equinoctial region, where, it is perhaps wisely provided, that they live but short lives, hence rarely crowd each other, after arriving at that point, where there is no longer a chance of crowding others to make room for them. Heerne found no scarcity of men, as far north as he went. and Capt. Ross found inhabitants, beyond what I consider the icy circle.

Was I to indulge myself, in summing up all the reasons and arguments, that have occurred to me in support of my principle, I should not only fatigue my audience; but exhaust myself.

It is not to be expected that a single lecture, should serve to contain all that is worthy of attention, in relation to a subject of so great moment to man. but should this attempt be regarded with complacency, and a disposition be evidenced by my auditors, to again hear me further on the subject, it shall be my pride and pleasure to proceed in supporting and proving my System in this manner, to the utmost of my abilities.

I will now attempt to show, my idea, of the position and formation of the polar openings. by the aid of a painted earthen hemisphere, on which is painted a map of our northern hemisphere, with the lines of longitude, laid down according to my direction, these explanations however, are of such a nature, that they will not well admit of being clearly presented to the world in a written form. On this model I shall show evidence, that a person at the extreme northern verge while facing to the north, and standing on a true north and south meridian, between Copper-mine and Mackenzie's Rivers, would have the extremity of the verge, rise both to his right and to his left quite round to a point on the contrary side of the polar openings. which contrary point would be about the neighbourhood of the greenland sea and not directly opposite to the standing place.

at this point only, the apparently true ninetieth degree, may ~~or~~ should be found by celestial observation, and at such point, the axis of the earth which is situated in vacant space, would approach more near to the periphery of the polar opening, than at any other point or part of the verge. perhaps within five hundred miles.

such person on tracing the extremity of the verge to his right, would find as he rose (for he would rise both to his right and left, owing to the polar openings being oblong and declining, further into the spheroid in America, than in Europe.) I say as he rose, until he arrived where the ninetieth degree would be found, he would trace a path nearly parallel with the equator, and truly parallel with the magnetic equator: but not at right angles with the meridians. for the meridians coming from the Equator, would for the most part approach obliquely. And if my theory is correct, the meridians run along the verge in such a direction as would lead them towards the ninetieth degree which I have here described, at which point, they must all terminate. As must all the meridians from within. If such person proceeds from his first position, towards his left in like manner, as he did towards his right, the consequences will be

similar, for as before stated, all the meridians (as well from within as without the sphere) must on approaching the polar opening, oblique towards, and terminate at or near a certain point, in the greenland sea; those on the side of Asia and Europe obliqueing north-westwardly and finally near due west; and those on the side of greenland, north-eastwardly and finally nearly due east.

I shall also show, or attempt to show by this model, that greenland must be an island, of a length but little greater than either coast which has been explored. This is ascribable to the circumstance of the meridians terminating at the apparent ninetieth degree, hence greenland must lie at an angle of at least 45° with the equator.

And I shall also show, that Capt. Ross was last year proceeding nearly parallel to the equator, or in other words, nearly an east course, when he thought he was going north, whilst beyond latitude 76° and that his meridian had varied its original direction, about a quarter of a circle and his compass had not varied, at least not in any great degree.

I hope our nation will ere long, become actuated by that enterprising spirit, for examining the unexplored parts of the earth, which appears to now pervade, the Russian and British nations; and

fit out two or three fishing vessels, manned with such volunteers as have confidence in the truth of my theory. or such as are anxious to hazard all the difficulties, that may be expected to occur on a voyage of such a nature, to examine whether it be true or not. Such men would be most likely to ascertain the truth whatever that may prove to be.

Whether I shall be entrusted with the chief direction of such an enterprise, or not, will not be a matter of very great moment to me. provided those who go, are successful; for the circumstance of my having been first in declaring the Theory will doubtless secure to me, the title of discoverer, whoever may plant the first foot, upon the soil, more especially, as I have been for two years past, unavailingly asking for help, to explore it. However I trust my title to the discovery, will secure me the pleasure of being selected as the leader of any expedition that may be fitted out for such purpose, from the United States. there have already many volunteers offered to accompany me in case an out-fit should be obtained.

We should not, like the untutored savage who looks at the stony canopy over his head and naturally concludes, his camp or country to be in the centre of the world, suppose because we are at or near the centre of a rich baron,

of the latest secondary shell limestone formation,
 covered with an ample bed of rich alluvial clay,
 as Dr. Drake shows to be the case, in his late
 course of lectures on mineralogy and geology:
 I say we should not suppose we are more hap-
 -pily situated, than any other district or country,
 for our knowledge tells us, there are numberless
 basins and districts in the known world, which
 if not quite equal to our own, are nearly so,
 and our reason tells us, (provided we duly ex-
 -ercise it,) that there may for aught we know,
 be other basins and districts, still more happily
 situated, in the unknown, and yet unexplored
 parts of the earth; shall the enquiring mind
 of man, rest from age to age contented because
 he is surrounded with ~~plants~~ plenty, and situ-
 -ated as we are, in a land flowing with
 milk and honey, and abounding in health
 and happiness, and not yet crowded by popu-
 -lation. (shall I say ever improving man,)
 rest contented thus, and not exercise his reason-
 -ing and enquiring faculties, in mental and bo-
 -dily researches, until he at least becomes acquainted
 with, and explores the yet unknown limits,
 of the surface of the world he inhabits; shall
 he not rather unceasingly exert his powers

to inform and benefit the human family, wherever he perceives an opportunity.

Every step we rise up the hill of science, enlarges our views, in relation to things before hidden, thus one discovery generally leads to many others; and what person shall undertake to say, where the mind of man shall stop its career of improvement.

Many of the improvements of the present age, appear so plain when known, that we can only account for their not being long since understood; by considering the prejudices that usually prevail, in favour of those principles and practices, taught us in our youth, before we are allowed or enabled, to give much scope, to reasoning and reflecting on abstruse subjects.

To obtain belief, or even earnest attention, on a subject so extraordinary as this, it is requisite that the witherings and sportive ridicule, and in some cases almost malevolent assertions, ^{with} which many distant newspapers abound, leveled against me and against my theory; should be in a degree rebutted, and confuted. Those at least who have read such papers, and are not well acquainted with me, will I ^{consider} trust, an attempt to show that I do not deserve such sort of notice, proper and justifiable in me, (although my local friends think otherwise.) Amongst other

objections it has been seriously asked, by those who
 doubt, how I should be able without a liberal
 education, to so far exceed all other cotemporary
 discoverers, and other parallel criticisms, hence
 take occasion to treat slightly whatever I offer
 on the subject. To such objections I must beg
 your indulgence to be allowed to reply, that
 I may count amongst my ancestors and kin-
 dred at least a few examples of genius and per-
 severance both on the side of my father and
 mother. Did not my brave, my worthy uncle, John
 Cleves Symmes, whom I presume you all knew, and
 who after assisting in the council and the field,
 in establishing our independence as a nation,
 was the founder of this now flourishing and populous
 country, did not he, I say outstrip every co-tempo-
 rary American, in penetrating foresight, boldness
 of advance into the savage wilderness, and suc-
 cessful execution in providing the rich, and am-
 ple ground, which now constitutes happy homes,
 for tens of thousands, who flourish within the
 million of acres he colonized, but to trace my
 paternal ancestors, back as far as seven genera-
 tions, inclusive, which it so happens I am able
 to do, I find the seventh in a direct line, was
 one of the dissenting ministers, who led his flock,

from the shores of great Britain, and was amongst the first emigrants, who settled at plymouth, where the earliest settlement in New-england was made.

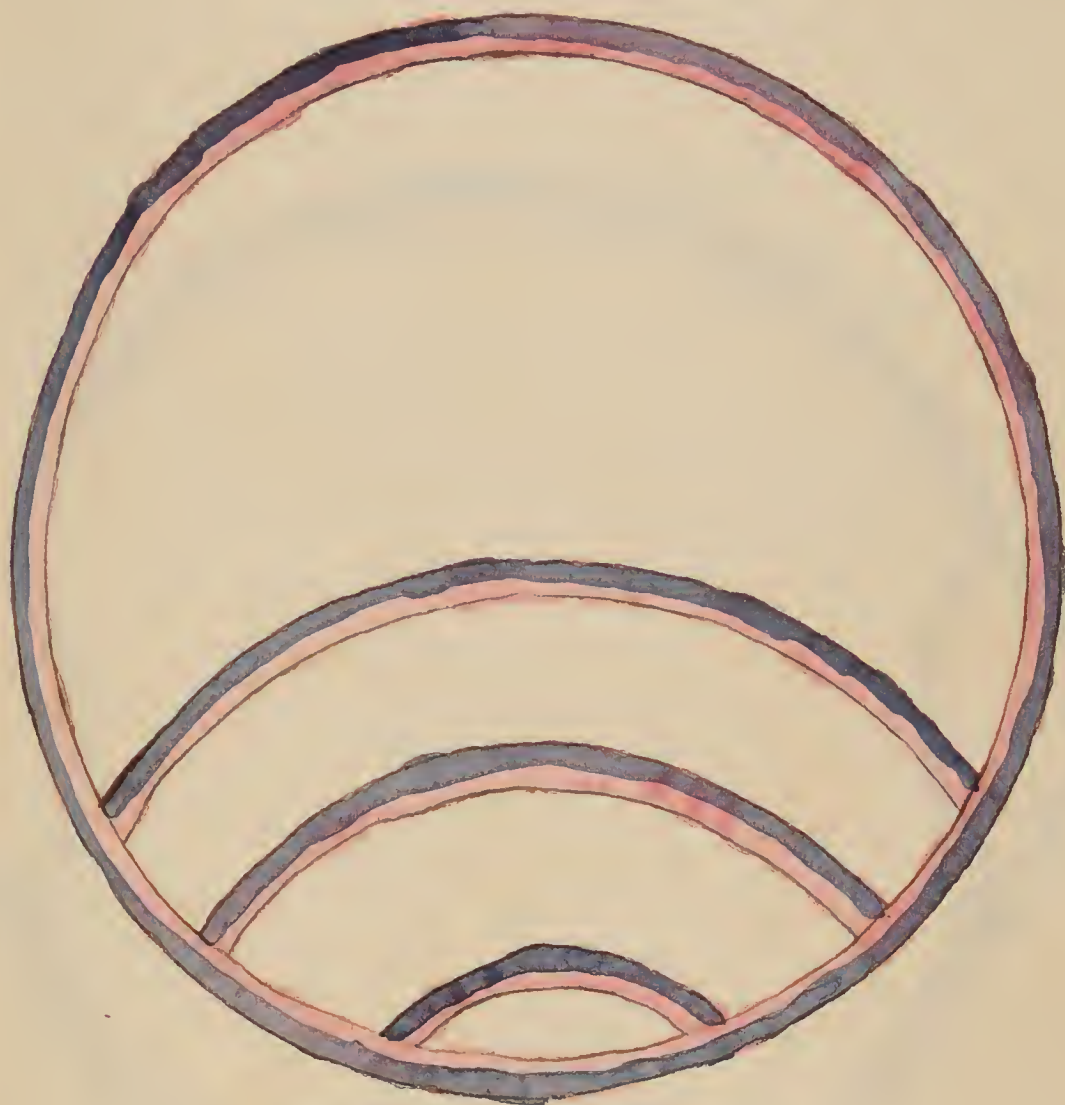
On the maternal side, I may count Mrs. Wright who though self educated, was distinguished for her extraordinary talents, whilst residing both in England and America, in the time of the American revolution.

I do not pretend to be equal, either in mind or manners to the two kindred I have with a filial feeling selected to name on this occasion, I cite their characters, with a view to countervail the arguments of those who appear to exclaim. how can this man teach us, when he has himself been so little taught. Whether I teach the truth or not the world is perhaps not yet decided, I have placed myself without design before the public, and should I yet be as earnestly encouraged, by a favourable decision as I have hitherto, been violently discountenanced by the frequent outcry of madness. I shall I trust bear the success with as much composure, as I have borne the reverse. The general opposition I meet with, is my plea for thus touching on my own history, and this I consider self defence, not egotism. By my own works must I stand or fall. applause is not my darling object. although it would be a great stimulus on deserving my own

approval I shall be content; be all this, as
it may I at any rate, would rather deserve
more applause than I receive than receive more
than I deserve.

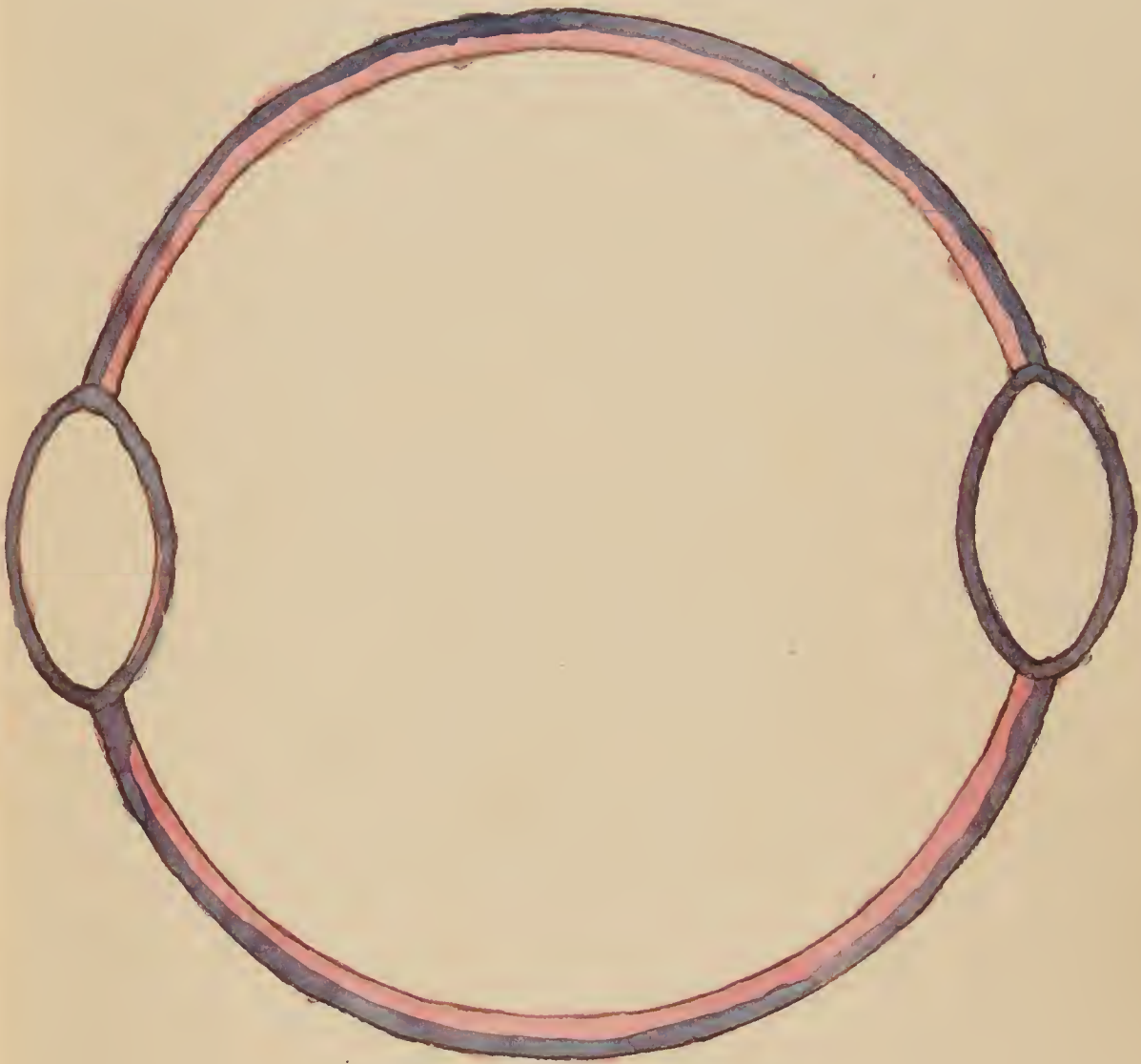


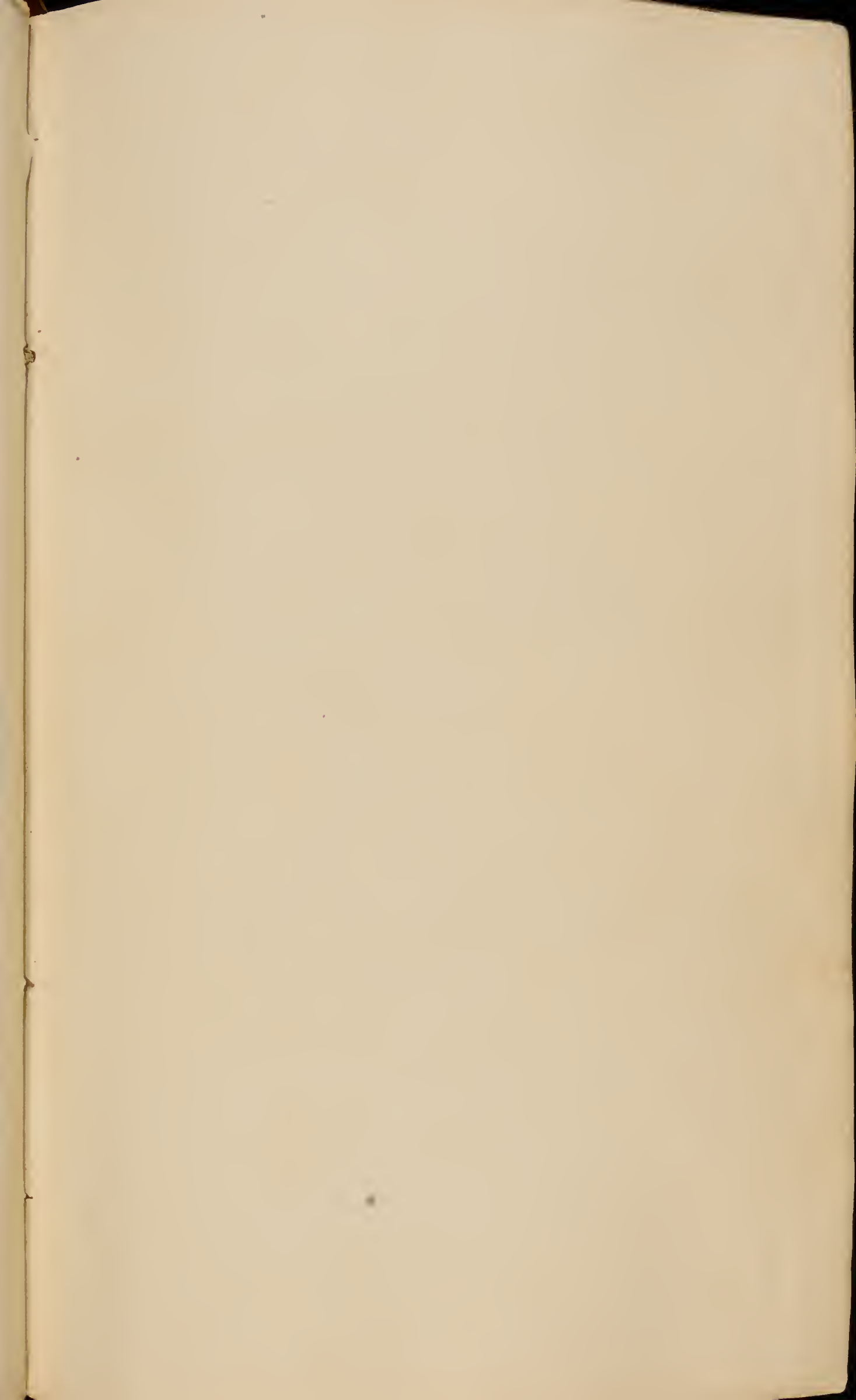
*A Telescopic view of Mars when his poles
are in opposition to us.*

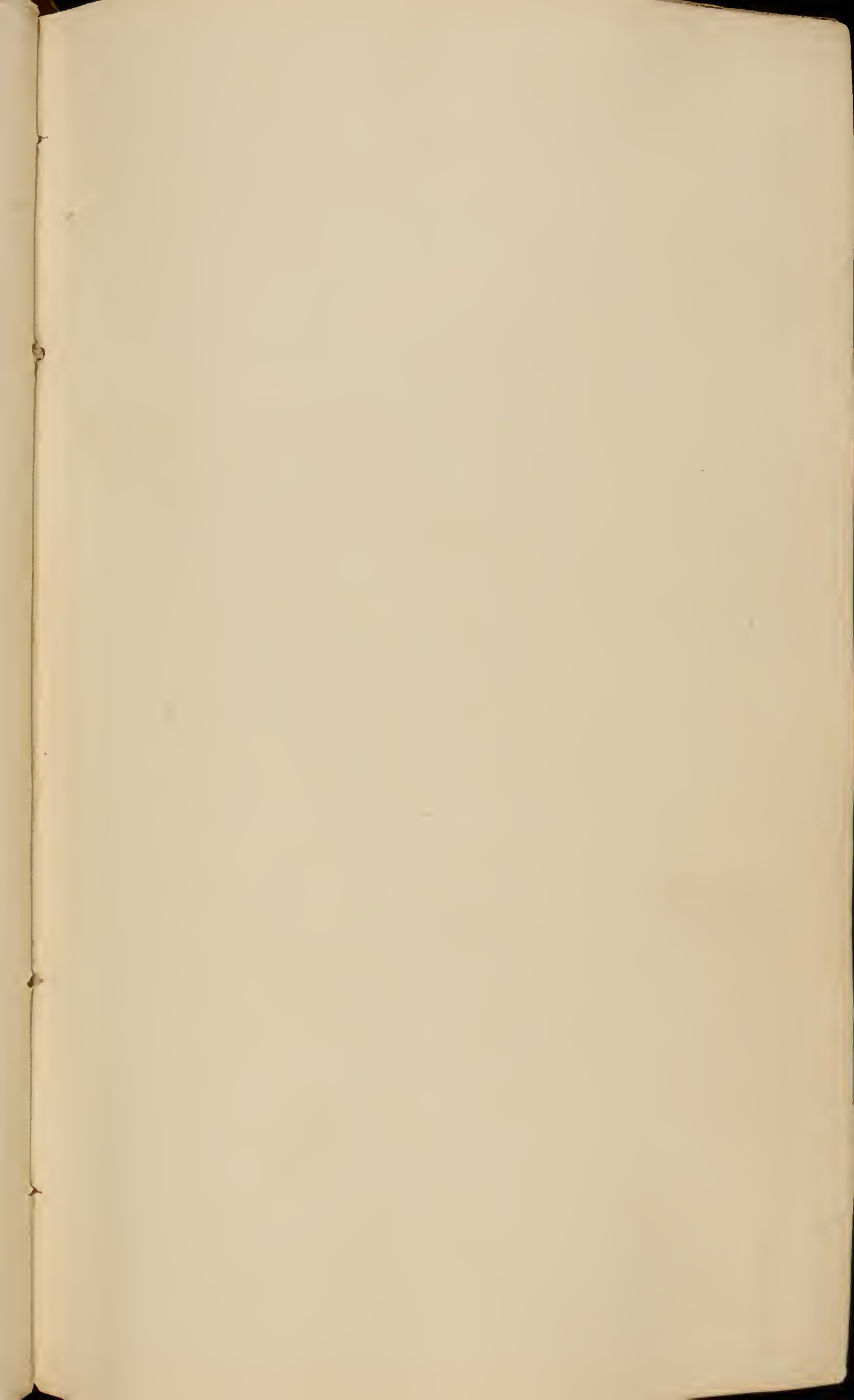


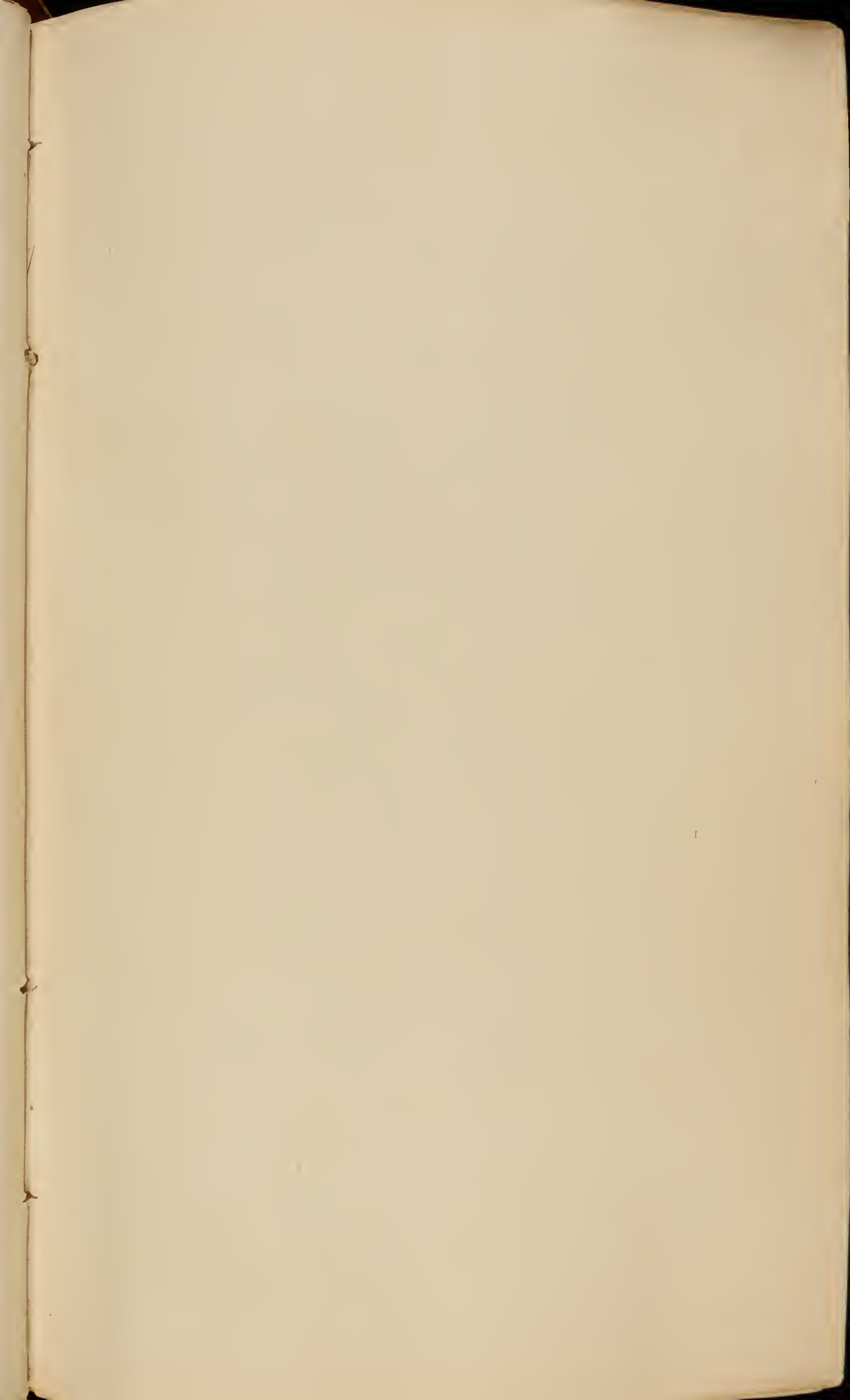


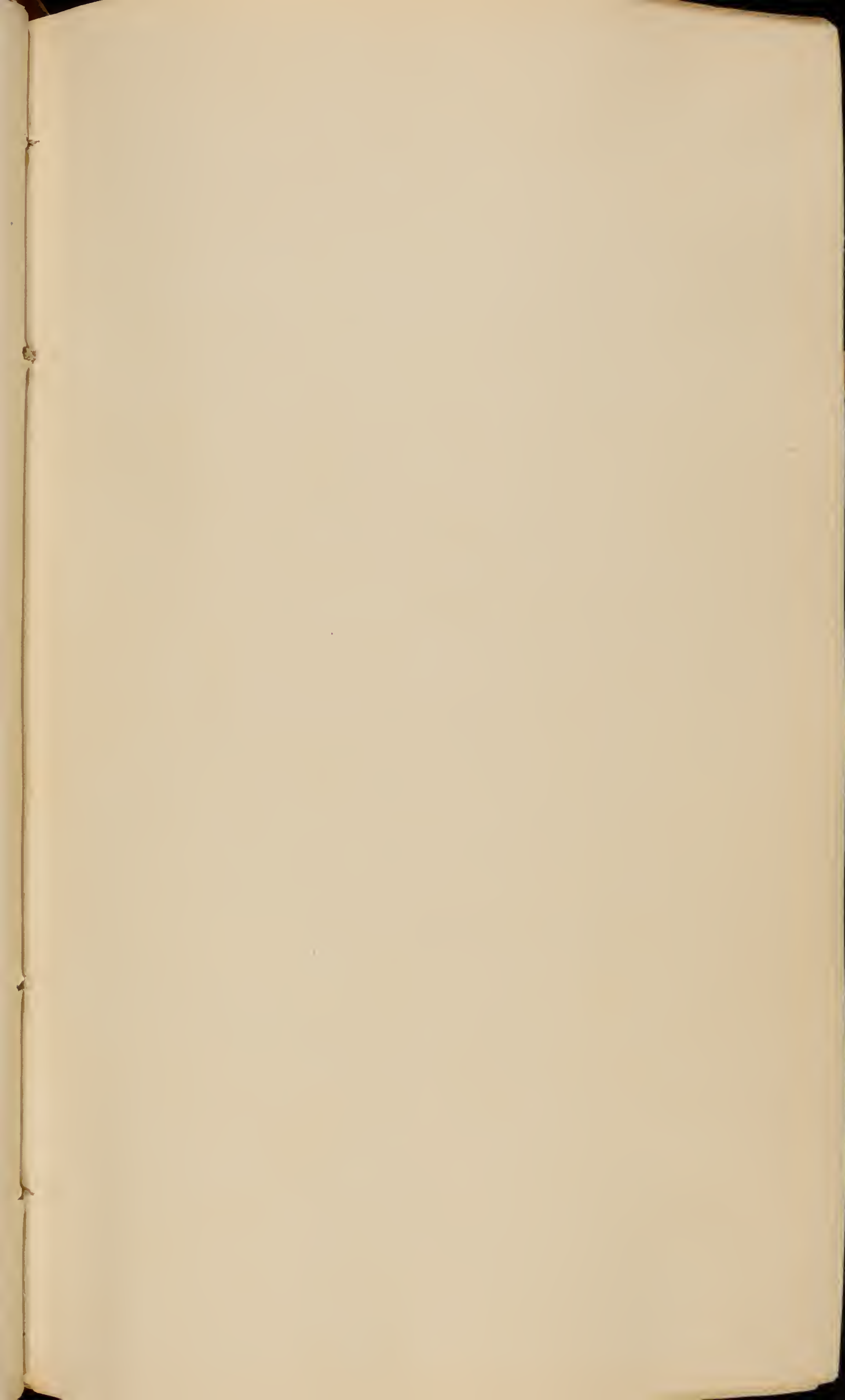
A Telescopic view of Mars when his axis is at
right angles with a line drawn from the centre of
the earth to that planet.

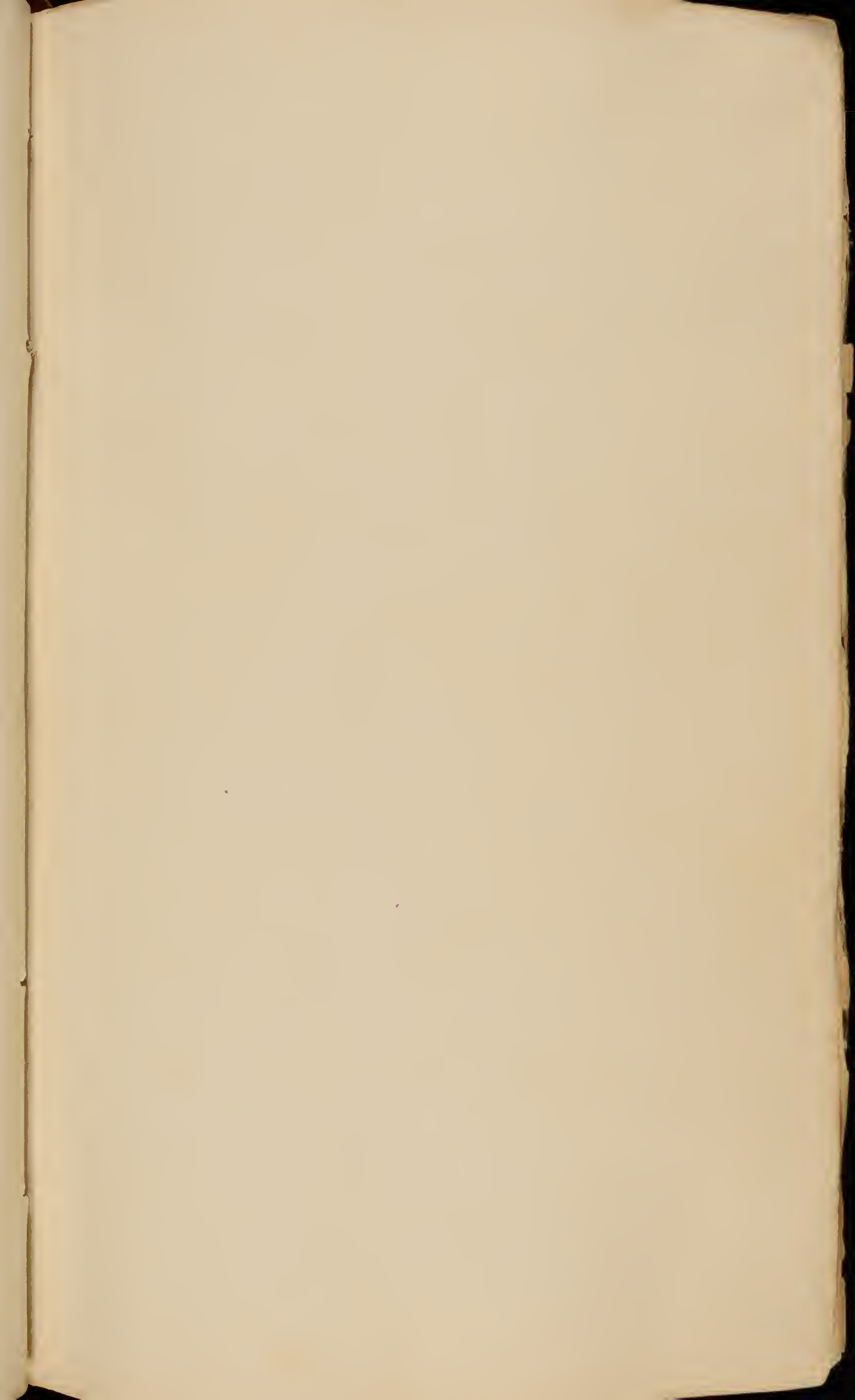


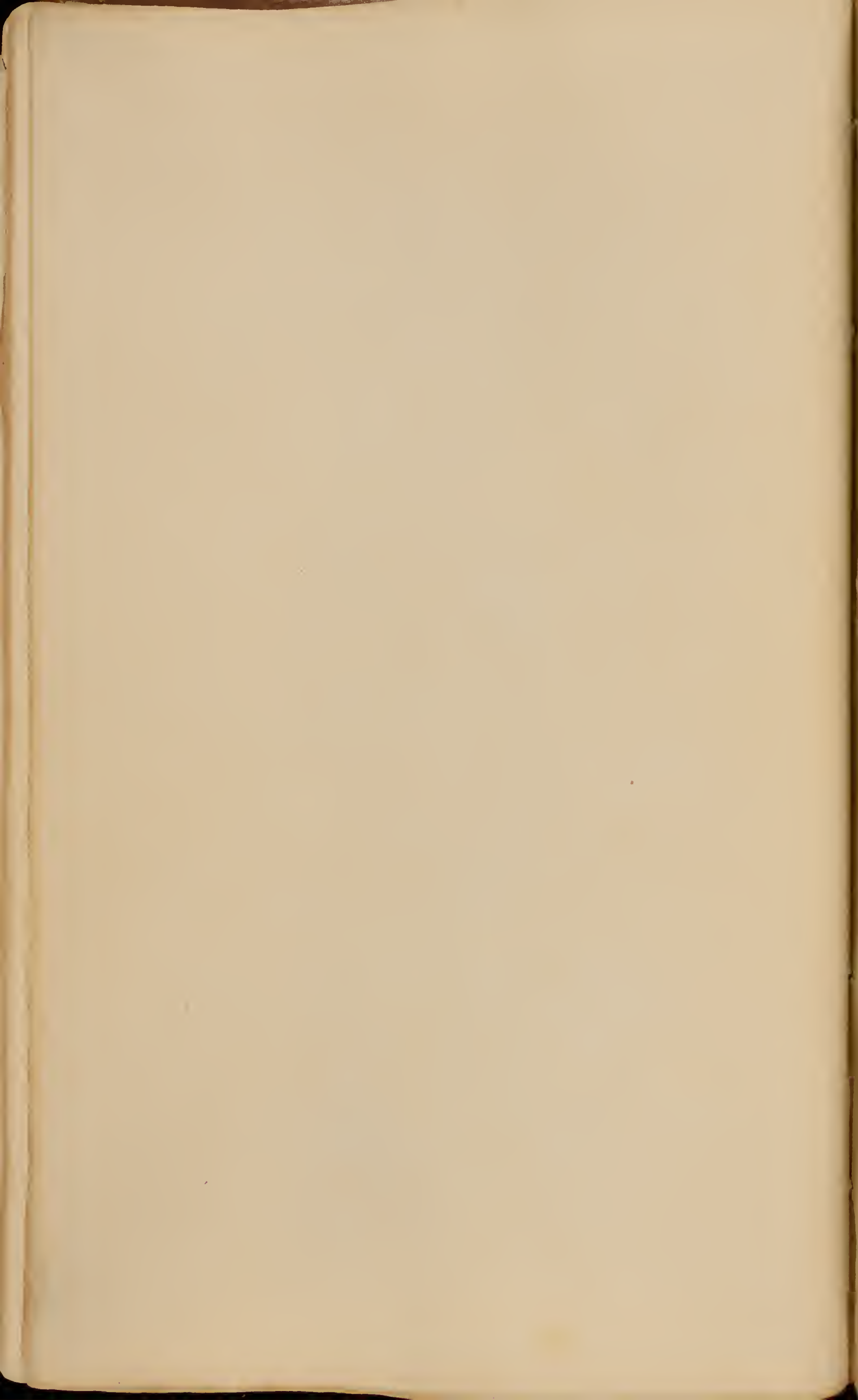


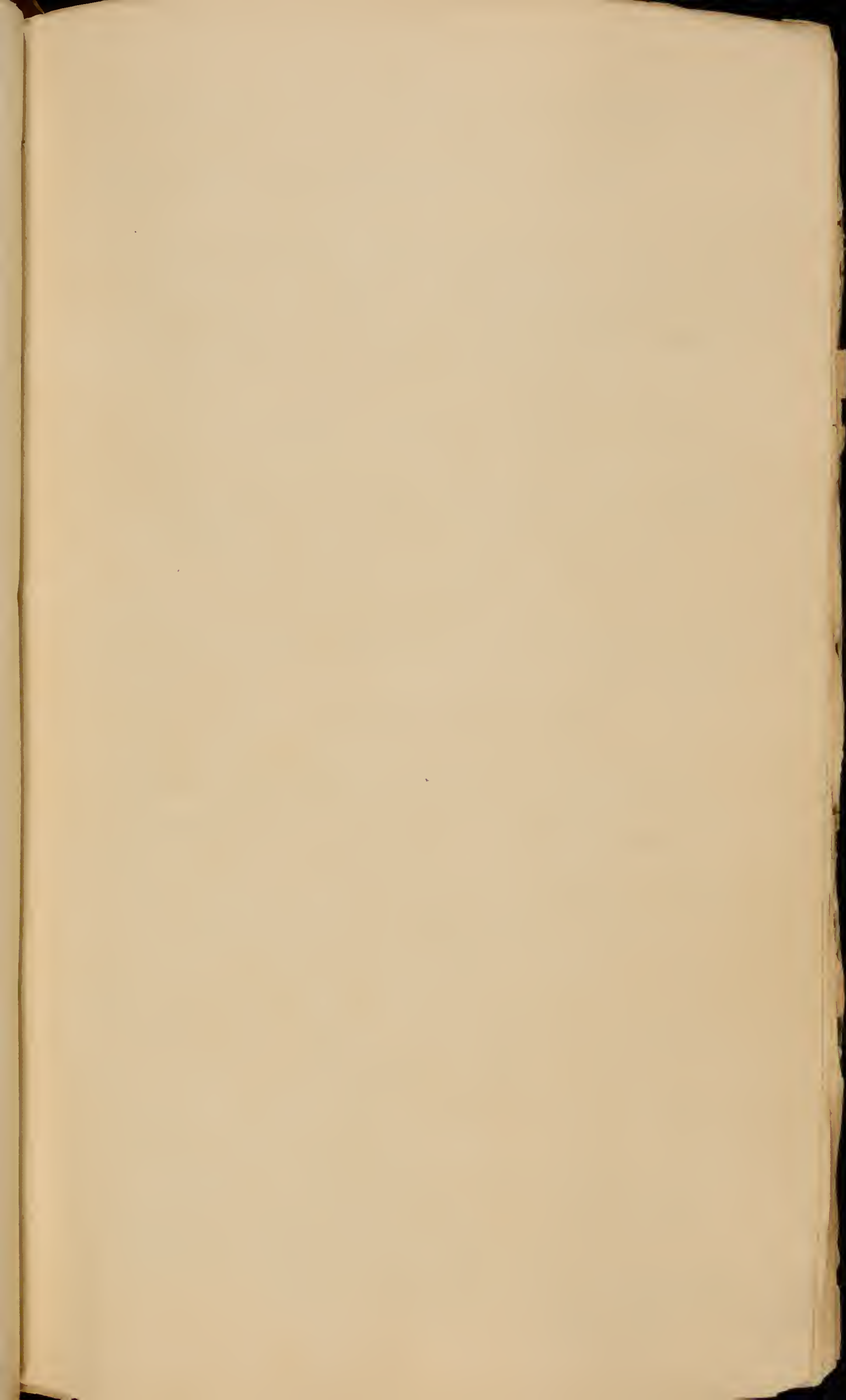


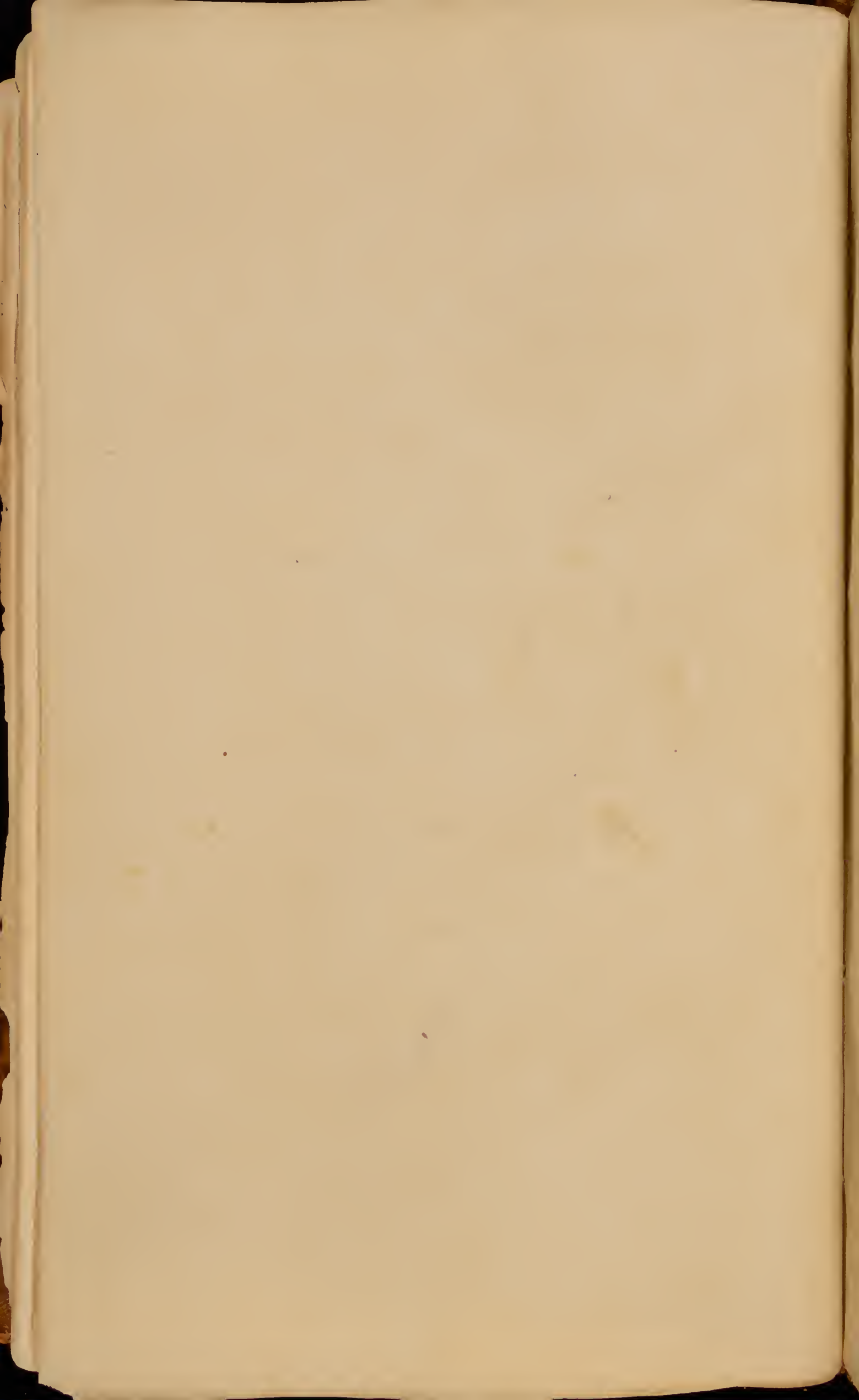












A List of Books, tending to elucidate and support Symme's Theory of the Earth.

1. *The Possibility of approaching the North pole asserted by the Hon. D. Barington, with an Appendix, containing papers on the same subject, and on a North-west passage. by Coln. Beaufoy. 1 Vol. 8vo. London. 1818-*
2. *Heines Journal from Hudsons bay to the Northern Ocean in 1769. 1770. 1771 & 1772. 1. Vol. Dublin 1796.*
3. *Ross' Voyage of Discovery in Baffins bay in 1818. 2. Vols. London 1819--*
4. *On the Greenland or polar ice. by William Scoresby Junr. In the second volume of the memoirs of the Wernerian Natural history Society printed at Edinburgh in 1818.*
5. *A description of Greenland, By Hans Egede who was a Missionary in that country for 25 years. with a map. 1. Vol. 8vo. London 1818-*
6. *A Voyage to Spitzbergen, containing an account of that country, observations on the variation of the Compass &c. by John Laing. Small Duodecimo Edinburgh A.D. 1818.*

7. Greenland the adjacent seas, and a North-west passage, Illustrated in a voyage of Discovery to Davis's straits in 1817. by Bernard B. Reilly.
1. Vol. Quarto London, 1818.

8. Edinburgh Review, No. 59. for June 1818.
Polar ice and North-west passage. Page. 1-

9. Edinburgh Review, No. 62. March 1819.
Page. 226. Capt. Ross's voyage to Baffin's bay.

10. An Essay on the Theory of the Earth, by M. Cu-
vier, 1. Vol. New York. price \$ 3.50

11. A New Theory on the formation of the Earth,
by Fra Hill A. M. for sale at Washington City
in January 1824.

12. Narrative of a voyage to Hudson's Bay, con-
-taining some account of the N. E. coast of
America. by Lieut. Edward Campbell. 1. Vol. 8vo.

13. Iceland, or the Journal of residence in
that island during the years 1814. & 1815.
with plates and maps. 2. Vols. 8vo.

14. Voyage from Hamburg to Spitsbergen.
by Martens. (In German.)

Northern Fisheries.

15. *Histoire des Pêches, des Decouvertes, et des Etablissements des Hollandois dans les Mers du Nord* 2. Tom. 8vo. Translated from Dutch to French. Paris. 1801 -
-

16. Narrative of an attempt to discover a passage over the North pole to Berking's straits by Capt. David Buchan. Quarto with plates.
-

17. An account of a journey to the Frozen Seas, and of the discovery of the remains of a Mammoth, by Michael Adams of St. Petersburg in the 29. Vol. of Gilloch's Philosophical Magazine; and Cuvier's Essay on the Theory of the Earth, translated by Jameson" - (D. W. C. Lecture. page. 62 (oppen))
-

Doctor Mitchell alleges that the axis of the globe at some remote period was changed 90° . The ancient equator to have extended in the northern Hemisphere from the bay of Bengal through Tartary and Siberia to the present North pole, and thence along in north America through the tract of country west of Hudson's bay and lake Superior to the sources of the Mississippi river and thence down the valley of the Mississippi to some place near its mouth, and so onward across south America to the South sea. (D. W. C. Lecture pa. 72)

This doctrine would destroy Symmes Theory.

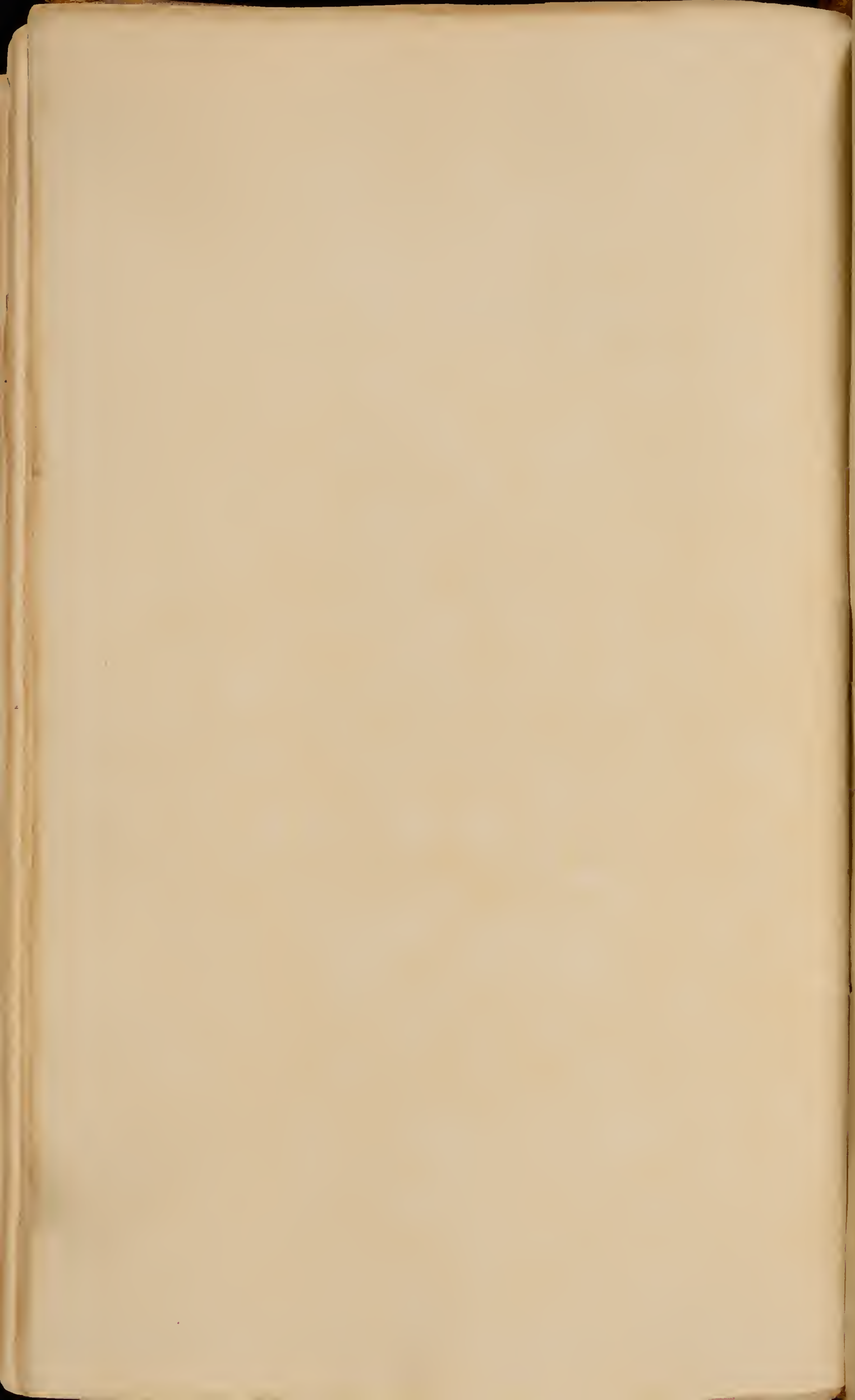
18. "Universal Nonespheres" containing opinions of
Newton & Dr Hally.

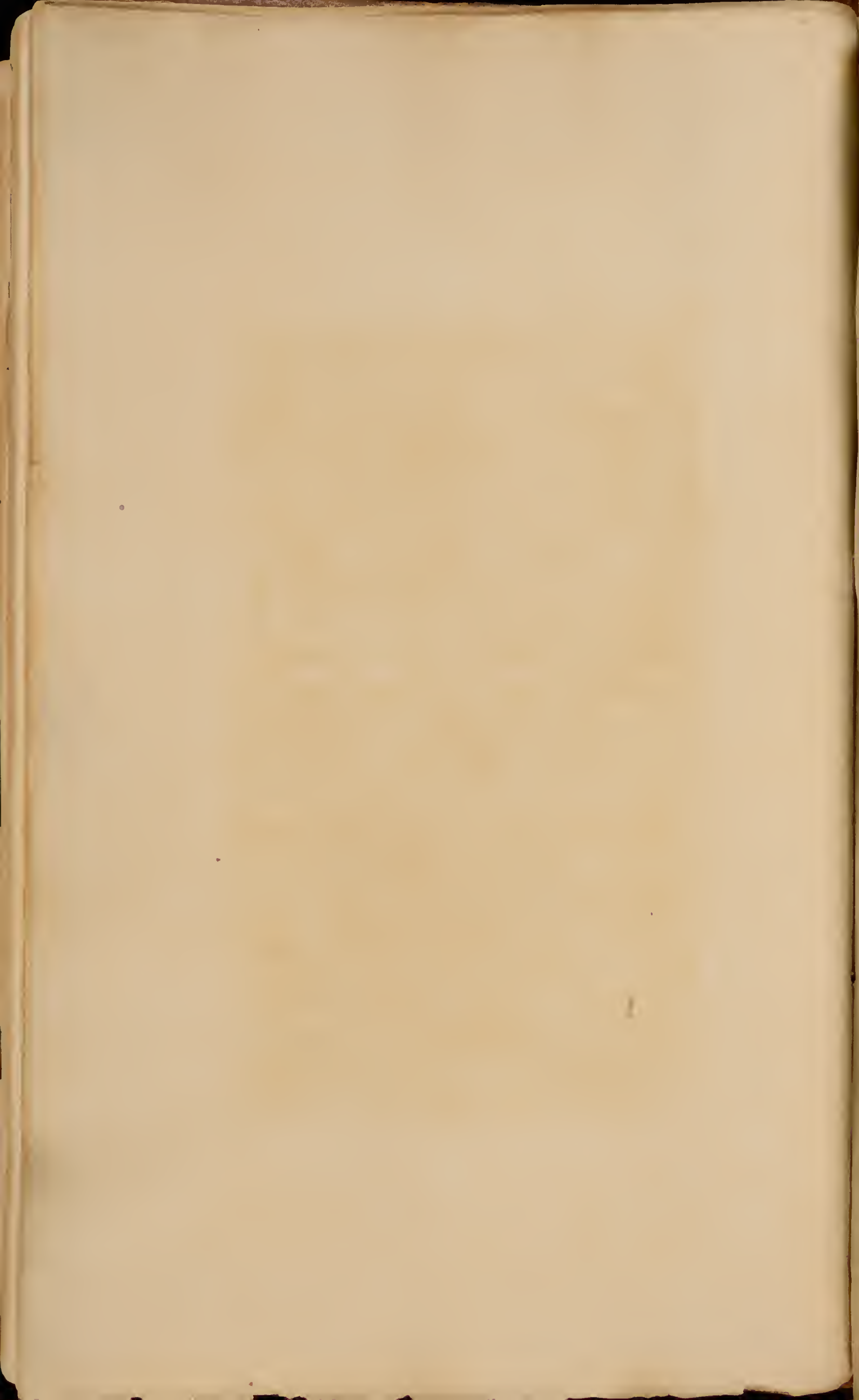
19. Essay on the Islands of ice of the Northern Atlan-
tic Ocean from 1805. to 1819.
by Doctor Samuel Mitche

20. Narrative of a journey to the shores of the
polar sea, in the years 1819. 20. 21. & 22. by
John Franklin. Price \$2.50-

21. Mackenzies Voyages, to the Frozen and
Pacific oceans, in the years 1789 & 1793-
1. 8oe. Octavo.

22. Dr Knightz treatise of attraction and repulsion





From the Hamilton Intelligencer of June 8th 1824.

Symmes' Theory.

On the evening of the 31st ultimo, Capt. John Cleves Symmes delivered a Lecture in the Court House on his theory of the earth, to a very large and respectable audience of Ladies and Gentlemen and at the close of which *James M'Bride* was called to the Chair and *Jehiel Brooks Esq* appointed Secretary, for the purpose of making a public expression of their sentiments in regard to said theory, when the following preamble and resolutions were unanimously adopted--(viz.)

Whereas we, citizens of Hamilton & Rossville, having attended several Lectures of

Capt John Cleves Symmes in support of his system of the *earth's form*, and being constrained, from the numerous phenomena and established truths embodied in confirmation thereof, to admit that it is extremely plausible:--

Do therefore resolve: That we esteem Symmes' theory of the Earth deserving of serious examination, and worthy the attention of the American People.

Resolved: That the proceedings of this meeting be published in the New papers printed in this town.

Resolved: That this meeting do now adjourn.

JAMES M'BRIDE, *Chairman.*

Attest — J. BROOKS, *Secy.*

Hamilton, May 31st 1824.

From the Hamilton Intelligencer of June 29th 1824.

A public Acknowledgment.

To the public I beg leave to remark that the meeting assembled in the Court House at Hamilton on the 31st. ultimo consisting of citizens of Hamilton and Rossville, Mr. *James M'Bride* in the Chair & *Jehiel Brooks* Esq. Secretary passed a resolution by a unanimous vote recommending the new Theory of the Earth to be worthy the attention of the American people. The adjournment followed the resolution so immediately I had barely time to make a single remark by way of acknowledgment. But a high sense of the honor and benefit which that meeting is calculated to confer induces the wish that an acknowledgment should be recorded in the newspapers of the day suitable to the occasions hoping & trusting however that posterity will do more ample justice to the resolution than this feeble attempt of mine. I therefore defer the communication of my wish with this reiteration of my most sincere gratitude to that community which constituted the meeting.

Already have several editors of Cincinnati papers determined to copy the resolution from the Hamilton papers and soon I trust will the disposition to examine, encourage, and commend, thus begun at Hamilton, spread like an undulating wave from its centre in Butler County Ohio to the utmost regions of civilization thus conferring an honorary reward on a life devoted to research and virtually compensate for the time spent in the attainment of a succession of happy developements of philosophic truths.

With high hope in the ultimate success of my labors I am the devoted servant not only of the people of Hamilton and Rossville and of my native country the United States but of all nations and countries throughout this terrestrial sphere.

JOHN CLEVES SYMMES.

Newport, Kentucky, }
June 16th 1824. }

24.

3

Supplement TO THE WESTERN SPY.

CINCINNATI,

No. 283.] SATURDAY, Nov. 6, 1819. [N. Series.

FOR THE INQUISITOR.

Cincinnati Reading-Room, Oct. 23d, 1819.

MESSRS. EDITORS,

The following numbers slightly amended, are offered for your publication; they have each been published at St. Louis, and in the National Intelligencer; the first and last has not yet appeared in your columns, (where I now wish them recorded,) and the first has never yet been published in this city.

JNO. CLEVES SYMMES.

—
NO. I.

CIRCULAR.

Light develope light,—“ad infinitum.”

St. Louis, (Missouri Territory) North
America, April 10th, A. D. 1818.

TO ALL THE WORLD,

I declare the earth to be hollow, and habitable within; and constituted of a number of concentric spheres, the poles of which are open twelve or sixteen degrees. I pledge my life in support of this truth, and am ready to explore the concave, if the world will aid and support me in the undertaking.

JNO. CLEVES SYMMES,

Of Ohio, late Captain of Infantry.

N. B. I have ready for the press, a treatise on the principles of matter, wherein I show proofs of the above positions—account for various phenomena, and disclose Doctor Darwin's “golden secret.”

My terms are—the patronage of THIS and the NEW world.

I dedicate to my wife and her ten children:—the six eldest, being the children of a former husband.

I select Dr. S. L. Mitchell, Sir H. Davy, and Baron Alexander de Humboldt, as my protectors.

I ask one hundred brave companions, well equipped, to start from Siberia in autumn, with reindeer and sleighs, on the ice of the frozen sea. I engage we find a warm country and rich land, stocked with thrifty vegetables and animals, if not men,—on reaching about 69 miles northward of latitude 82. We will return in the succeeding spring.

J. C. S.

4.

MESSRS. MORGAN, LODGE & CO.

Having added a diagram to my *favorite* memoir, No 2, I wish it republished. I presume its smallness has caused it to be overlooked by many of the readers of my numbers; I am especially led to think so, from having observed that some regard my new discovery as a lucky guess, rather than the result of minute investigation of causes and effects. The basis of whatever credit may be awarded to me, lies within the compass of this memoir; for the leading idea it contains, was the mainspring that led me to the first establishment of my own belief and decision, on the existence of concentric spheres and open poles. Respectfully,

JNO. CLEVES SYMMES.

September 23d. 1819.



Geometry—Memoir No. 2.

St. Louis, June 17th, 1818.

With dividers describe a circle on a plate of matter of loose texture, and in the centre, add a very small circle: then draw a right line through the centre. It is evident (as matter gravitates matter in proportion to quantity and distance) that, either half of the inner circle, being almost equally surrounded by matter, must be very little gravitated centerwise; so being suspended, only a rotary motion is needed to throw it compactly towards the outer circle. This being admitted, it follows, that half way from the outer to the inner side of this circle of matter so thrown out, a like rarity, suspension, or balance of gravity, should prevail, and hence a disposition to separate into two concentric circles occurs:—therefore it follows, that successive similar subdivisions should exist, gradually lessening in force or quantity. By applying this principle to the earth, I found the necessity of hollow concentric spheres. A decision of schoolmen on these lines, shall be followed by additional positions, further explaining my new principles of hollow planets and concentric spheres, open at the poles, declared in a circular letter of the 10th of April, 1818.

JNO. CLEVES SYMMES.

of Ohio, late Captain of Infantry.

GEOLOGY.—MÉMOIR, NO. III.

"The light of ages past, develops light in those succeeding—" AD INFINITUM."

St. Louis, June 24th, 1818.

Having about a year since, decided in my own mind, on the geometrical necessity of all planets being hollow, and consisting of separate concentric spheres involved within each other; like laws led me on the 19th December, 1817, at Pass Christiana, (Gulf of Mexico,) to decide, that the rotation which throws the matter wide from the centre, would throw it some degrees from the poles, and thus produce polar openings, about the axis of the spheres, the principles of which, are contained in my second memoir.

On the 16th of last January, near Mobile, a fire-ball burst, that an instant before projected a cone of fire from each pole horizontally, and at right angles with its course. Its bursting like a bomb-shell, showed it to be hollow,—the two cones of light besides its tail, showed it was then open at the poles: I therefore deemed it a little errattick planet, or comet. This was the first *fact* I found confirming my new positions.

The fire-ball that fell in Connecticut in 1807, produced three distinct reports in rapid succession, and it made three convulsive leaps in its course, appearing less and less luminous at each of the two first convulsions, or throes, and disappearing with the third; and three parcels of stone fell on the earth;—the second parcel five miles from the first, and the last parcel three or four miles from the second: This showed it consisted of three concentric spheres. It came from northwardly—the fragments lay in a N. E. and S. W. direction. Some of the sooty crusted surfaces of the fragments appeared concave. This fire-ball was probably a transparent fluid, until it fell so low as to condense, and yield free heat, and it ultimately burst, because the heated air within could no longer bubble through the spheres from their *mid-plane* or volcanic space, owing to the fluid of the spheres, having successively condensed and crystallized. The hard white globules of feld-

spar, of one or two inches in diameter, with which it abounded, indicate, that smaller planets exist between the spheres of larger ones.

Since last January, my mind has been almost entirely devoted to the study of nature's laws, both abroad and at my reading desk:—and I have found full fifty strong additional facts, in proof of my new principles. I will state the base of a number, from whence the studious may trace their merits, (as I have lately done) in books that treat of them. If the learned admit my philosophy without the publication of a formal treatise, I shall be the more gratified. For the present I offer the following brief facts as proof.

Proof 1. The alternate dark and light circles seen round the poles of Mars, as if several concentric spheres open at their poles, existed one within another. See Ferguson's plates of Mars.



2nd. Saturn's ring or rings, which have the appearance of being one or more of his outermost spheres, contracted N. and S. and greatly open at their poles, owing perhaps to great rarity and a rapid rotation.

3d. One of the cusps or horns of Venus,



sometimes running 15 degrees into her dark hemisphere, being narrow, bends inwards like a hook before it terminates, as if this narrow lighted hook like part, wound round the rim of an annular cavity, that might be a hollow pole; & at other periods, either this or the other cusp or horn, terminates bluntly, leaving a dark space of several degrees, and again showing a tip, or spot of light, as if a hole or void space had interrupted the horn near the point—and as if the insulated spot of light, was short of the end

of the horn, as it should appear, if it terminated on a narrow verge of an inner sphere that could not afford room for its protraction in full.

4th. The belts of Jupiter (whose poles we cannot see) seem to favour the doctrine of a plurality of spheres, more or less solid.

5th. The spots on the sun, which have the appearance of fractured breaches in his outermost sphere, through which an inner sphere is seen, favour the theory ;—his poles too, must be open, (notwithstanding the slowness of his rotation,) but we can never see into them, owing perhaps to his being very much larger than the earth, and the earth being never very far from the plane of the sun's equator.

6th. Although the polar axis and equinoxes *precede*, yet the just proportion of the flatted poles, are said to continue ; as if the globe yielded as a soap bubble yields.

7th. Iron filings sifted on paper, form into concentric circles, on holding a magnet under the paper. This concurs with the mathematical demonstration laid down in my second memoir. Sediment also, in a cup or tub of water, sometimes settles in concentric circles.

Other indices of proof, will be added in succeeding numbers, showing how the migration of fish and quadrupedes (if not birds) over and under the polar ice, *northward*, in autumn, while *flood*, and *southward*, in the spring, when *fat*, prove my new doctrine.

Man feels that the Deity is great and powerful, beyond comprehension :—this he is taught by religion and the wonders of creation. So far as this feeling is founded on the excellent and magnificent formation of the universe, (if I am right) it should be as many times doubled, as these qualities are shown to be, by each planet containing a succession of lesser ones, habitable on their inner and outer surfaces, either for man or fish, fowl and quadrupeds, which are often food for

man: The inside spheres of the sun and all his compeers, the stars, should also be included in the estimation.

Although man cannot comprehend the greatness of GOD, yet the more they understand his mighty works, the more they must adore him—hence correct philosophers cannot doubt divinity, or withhold worship, where all nature tells them, adoration is due.

JNO. CLEVES SYMMES,

Of Ohio.

P. S. All the data I have yet obtained, indicate, that near latitude 75 deg. North, the degrees should begin to decrease, so that the ninetieth should not be more than 5 or 10 miles;—that in high latitudes, gravity is so little abated by the rotary motion, that water should solidify with a much less quantum of cold there than here;—that sunshine often reaches nearly to the inside equators, and may be refracted and reflected beyond them. That when and where the sun shines perpendicularly on the verge of the sphere in summer, it should be excessively hot;—that the south pole is much more open than the north;—that the spheres are alternately farther off, and nearer each other, in successive pairs;—that the ins de seas are fresh, or nearly so, and discharge into the outer seas periodically, if not constantly, on each sphere respectively;—that air coming out from the hollow of the inside spheres, is more unhealthy to us than common air:—that the average space between the largest spheres, is not less than 500 miles;—that the north pole, or axis, is 5 or 600 miles beyond the ninetieth degree, situated in vacant space;—that the monsoons of the southern hemisphere, and our north-eastwardly and south-westwardly winds, are alternately forced out of and drawn into the hollow of the spheres at their open poles;—and that most or all the fire-balls, come out of the hollow spheres, through the polar openings.

J. C. S.

NOTE. *The diagrams do not necessarily appertain to the above numbers, and can therefore be omitted by those editors who may be inclined to republish the numbers.*

J. C. S.

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From Western Spy & Cincinnati General
Advertiser of October 23^d 1819 - 11

From the National Intelligencer of 11th February,
1819, with some additions and corrections up to
the 13th October, 1819.

Whole Number—6.

MISCELLANY.

Cincinnati, Jan. 18th, 1819.

Messrs. Gales & Seaton—Pope advises authors to keep their works many years—I correct mine almost as often as I peruse them; hence cannot instantly profit by your acceptance of the offer I made of sending my Arctic Memoir for publication. My progress in studying nature is voluntary or spontaneous, and not the consequence of immediate volition; so, hurry suits not with my studies. My intentions, however, seldom subside until they are accomplished, or clearly defeated: hence you may expect shortly to obtain the memoir alluded to in my last; and, in the mean time, I add in a note below, some of the particulars to be explained in my future numbers.

My family require most of my time and efforts; I shall not, however, neglect to exert myself in developing my new principles, even if it should cost a portion of the patrimony I designed for my children. If the world, or some particular national government, do not furnish the means to explore as I have asked, I can proceed but slowly with my investigations; for my pecuniary concerns have been so much neglected in consequence of my scientific pursuits, that I shall have to lay aside, for a time, several new memoirs, now in a progressive state, including one on the source and production of animal, latent, and free heat. Wishing my writings to be as free as air, I am unwilling to put them to sale: indeed I should prefer that my pupils, like the pupils of Doctor Black, should themselves develop my discovery.— Besides the time expended on my new positions, I have paid out considerable sums for printing and postage, particularly for five hundred circulars, of which, I distributed one to each notable foreign government, reigning prince, legislature, city, college, and philosophical society, quite around the earth; also to our own president, and governors, legislatures, cities, colleges, & philosophical societies, throughout the Union; and to each of the individual members of our national legislature, as far as the five hundred copies would go.

I leave much I have to say, unsaid, and conclude with a quotation from Nicholson's Encyclopædia, under the head "Earth." "The at-

tentive and skilful observer of the works of nature, whether when employed in examining the most wretched or the most sublime, will find that judgment, and infinite wisdom and ingenuity, has equally prevailed throughout.— Can it then be supposed for a moment, *that the internal part of the earth we inhabit has received less attention from the Creator, than those objects which are under our immediate and unimpeded inspection?*”

Respectfully,

JNO. CLEVES SYMMES.

Items to be treated of in future numbers.

All the data I have yet obtained, afford proofs and indications, (which I hope soon to shew) that the following paragraphs are well founded and true, viz:—

1. The data I have yet obtained indicate, that the center of the north polar opening, is not at the axis of the earth, but a considerable distance from it, on the side next America.

2. That the magnetic needle regards the center of the polar opening, rather than the earth's axis.

3. That the needle should so turn, on entering a polar opening, as to have the same end N. or S. within, that was N. or S. without, viz turn end for end.

4. That this sphere, northwards, as far as the sixtieth or seventieth degree, is rather a portion of a spheroid protruded towards its axis, than a depressed or oblate one; although the whole earth taken together, is evidently a spheroid flattened at the poles.

5. That much of the water developed to air or vapor within our tropics, is condensed to abundant rains, far within the sphere, by the gravity gradually increasing continuously, from our tropics towards the internal equator; thereby setting free latent heat and light, and thus making room within, for a new succession of air and clouds, which are or should be received through either polar opening alternately semi-annually.

6. That the haze (or smoky appearance) of the Indian Summer, comes from within the sphere, although south winds often thicken it, by condensation, or by heaping it upon itself; unless indeed, there be an outer ring or sphere to yield it.

7. That the northwestwardly winds are generally sucked, either from without the polar opening of one or other of the more narrow aerial spheres above us, or, out from some one or more of the poles of the inner spheres, or from midway between this and the next inner sphere, or occasionally from all; and that the northeastwardly winds are protruded from the concave surface of this sphere, (as are the S.E. monsoons, which prevail most in India; because the greater half of the south polar opening lies between the south axis and India, owing

to the axis not being in the center of the opening, and because the south pole is more open than the north) the S.W. wind is probably often sucked (by a partial vacuum northwards continuously within the sphere) from the concave of an aerial sphere above us, or from mid-range between such concave and the earth's surface, as their natural rarification, great condensation, and consequent heat, indicate; their hollow whistling sound indicates that they are sucked: owing to the rotation of the earth to the east, the action of the suction winds spirally round the earth towards the equator, from either pole, in a westwardly direction; the progress of which action, may be almost as simultaneous, from end to end, as that of the tides, or somewhat as water moves in a trough, when one end is depressed: this action may pass over or through the trade winds of the equator. It appears, S.E. winds abound more in Europe, than in America; perhaps this is owing to a partial continuation of the monsoons of India, or are partial northern monsoons. If the spheres balance towards each other on the side next the sun, it will account for winds prevailing more at midday than at midnight; as the polar openings should then better correspond with each other.

8. That, the N. polar opening is the source whence the matter of our N. eastwardly snow storms, as well as that of most winter rains, are derived;—although the snow must be crystallized, on, or after, its passage over the icy hoop or circle. The expansion of the air, on its escape from the polar openings, must produce the great cold, that at times exist about the icy circles, and this expansion continued indefinitely towards our equator, should tend to produce cold here.

9. That, when the sun is 23 degrees S. of the equator, the line of latitude of greatest cold N. is 23 degrees S. of the polar opening or real ninetyeth degree; and, when he is 23 degs. N. of the equator, the line of greatest cold, north, exists no great distance beyond real 90th degree, although under the umbrage of the verge.

10. That, the dark complexion of the nations high N., is derived from ancestors, that originally lived in a hot climate further N. continuously and within the sphere.

11. That, when one is at 90 degrees *real*, refraction will so deceive, as to indicate 8 or 10 degrees less than 90;—owing to the atmosphere extending quite over the polar opening; (as there is reason to believe it does,) so as to cause the zenith of the atmosphere, at 90 degrees *real*, (not the zenith of the heavens,) to be depressed at a considerable angle towards the south.—For example; when a person travelling N. has passed 90 short degrees beyond our ninetyeth degree, and brought his *real* hor-

izon at right angles with the true plane of the polar opening, which is itself nearly at right angles with the axis, he will have the zenith of the atmosphere, depressed below his southern horizon: he must therefore, in all probability, lose about 90 polar or short degrees in estimating his progress, if he judge by celestial observation only; for the zenith of the atmosphere being depressed in relation to the observer, and the zenith of the heavens not being depressed, or not being so much depressed, the N. star although really S. of the observer, will in consequence of its being at the same time really N. of the zenith of the general surface of the atmosphere, appear to such observer to be northwards of his apparent zenith,—the intricacy of this part of my subject is such, that I fear few readers will be able to fully catch my idea, without a more ample explanation than the reasonable limits of a piece of this character will justify.

12. That, a part of this sphere, near the verges of the polar openings,—if not throughout most of the unfathomable ocean,—is water quite through; (except the mid-plane cavity or cavities) so that it transmits light within the sphere, or at least within the cavity.

13. That, the many large floating trees, found as high as 80 degrees N.,—which is 20 degrees beyond where we find such grow,—float out through the polar opening, and pass on S., or wedge in the broken, fresh-water icebergs, that surround it; which accumulation of ice may be called the icy hoop or circle.

14. That, this sphere high N. must be thin; for gravity there, is found by measurement, to be but little greater than at the equator, altho' the increase consequent on the abatement there of the centrifugal force of the rotation of the earth and air, must be considerable.

15. That, clouds, haze, or mist, will generally, if not universally, prevent a clear view of the opposing spheres, as well as that of the opposite verges of the polar openings, or that refraction alone will keep them out of view, which is most likely.

16. That, a murky atmosphere of mist, or haze, hangs over or about the polar openings, sufficiently dense, to project a shadow nearly circular, on the moon when she is eclipsed in the plane of the earth's equator, or that the rays of the sun in passing through the atmosphere there, are bent inwards toward the earth, so as to not pass on to the moon.

17. That, beyond N. latitude 75 degrees, at the side where the verge is most south, when the sun is seen near the northern horizon, he must appear much higher above the verge of the further side, than he really is, owing to refraction;—and that it is extraordinary refraction (perhaps aided by an extensive atmosphere, which in high latitudes makes him look dull, like the moon) his elevation should, however, be only in relation to the said further verge, and not in relation to the heavens.

18. That, mackerel, cod, whale, and the musk ox, inhabit far towards the internal equator, as the first and last breed when absent; (as does the sperm whale, if not many of the black ones) and as the fat and flesh of each readily develops (when without the sphere, where the centrifugal motion somewhat lessens the force of gravity) to a more fluid state, and late in the fish season, in our seas, and Buffalo season in the N., to a more volatile musk-like rancidity, than is common to local fish or animals.

19. That, the polar verges, of our sphere, at least the liquid parts, as well as the verges of the outer aerial spheres, yield to the gravity or action of the sun and moon, so as to affect our weather at the conjunctions, oppositions, and quadratures, owing to the air being either sucked in, or forcibly protruded, by such action. The variableness of the winds and their cessation at night, may depend much on the revolving and balancing of the inner spheres, towards, or from the sun, according to their relative bouancy.

20. That, tornadoes proceed from a convulsed disruption of the first aerial sphere above us, (many of such spheres must exist, according to my theory,) through which fractures, are forced down gushes of confined and highly rarified elastic fluid, escaped from the mid-plane cavity, of an upper aerial sphere, the condensation of which fluid, on its approaching and reaching the earth, increases its whirling action, and sometimes produces a scorching heat, by setting free that caloric which was before latent. Such, perhaps, are the suffocating winds of Egypt and Arabia.

21. That, the *blaze* or fire of our volcanoes, is the heat set free from a latent state, by the elastic fluid of the mid-plane cavity of the sphere, being forced, or spontaneously rising, up to where the greater gravity of the surface condenses its molecules, to their original *stony* base at Vesuvius, and *stony* and *watery* base at Hecla and at the hot springs about Hecla; somewhat, as the gas out of the tube of a gas light apparatus, yields up its latent heat by condensation, after being further rarified by inflammation, on being pressed by the incumbent atmosphere and cooled by extending from the heated nucleus.

22. That, along the mid-plane of each planetary sphere, (as previously alluded to,) there is a space or cavity, widely filled with elastic fluid, and distended with very rare aerial fluid molecules, to a limit and rarefaction, great, in proportion to the greatness of the gravity or condensing power of the external, or exposed surfaces, of the spheres respectively; and thus, the earth, comets, fire-balls, ignis fatuus, and all planetary bodies are proportionally bouyed, somewhat like balloons:—This principle, (to borrow the language of another,) has, I think, “the advantage of simplicity; and simplicity, the offspring of unerring wisdom, and almighty power, is, in general, the companion of truth.”

It has been asked, how should I be able to make further discoveries than others? I answer the question by another,—why not—when I have all the numberless prior discoveries, ready formed and stated, as a base whereon to found new ones?

I make a general request to editors, that they insert this miscellany in their periodical Journals and Gazettes, and also my other writings, as they may occur.

JNO. CLEVES SYMMES.

Arctic Memoir

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The following Memoir is extracted from the National Intelligencer of the 23d, ult. with some slight alterations by the author—and the addition of the note and diagrams, which were omitted at Washington for want of the plates.

CINCINNATI, FEB. 28, 1847.

I HOPED, ere this, to have been supported in my new theory of the earth by many pupils, but find that most of those who have written are inclined to oppose me. I would prefer having an advocate to state my views; because in proportion to their extent, I may subject myself to the imputation of extravagance or ostentation, especially as, while I write, I naturally feel elated with my discovery. I am, perhaps, better fitted for thinking than writing. Reared at the plough, I seldom used a pen (except in a commonplace book) until I changed my ploughshare for a sword, at the age of 22, not without to carve a fortune, (having already an ample farm by the liberality of my revered uncle, after whom I was named,) but to merit and obtain distinction, and accumulate knowledge, which I had seldom tasted but in borrowed books. With respect to the *latter*, the world is now to judge of my success; and, in relation to the former, I at least may say I satisfied myself and fellow-soldiers, if not my country—not only at Bridgewater on our left, and the sortie of Fort Erie in the van, but throughout my thirteen years' service, ending with the war.

I presume, few have inquired more devotedly than myself into the reason and origin of all that occurred to view. I remember, when at the age of 11, (in Jersey) while reading a large edition of Cook's Voyages, my father (though himself a lover of learning) reproved me for spending so much of my time from work, and said I was a *book-worm*. About the same age I used to harangue my playmates in the street, and describe how *the earth turned round*; but then, as now, however correct my positions, I got few or no advocates. I must not, however, say I get no advocates, for I have several. I particularly boast of two ladies, of bright and well informed minds, on the banks of the Missouri, who are able and earnest advocates, and devoted pupils: to them is due the credit of being the first to adopt what the world is so tardy in admitting. But, Col. Dixon, who has traded on Lake Winepec, with the Indians, is, I presume, the most *important* pupil I have obtained, for he has long been actively engaged in the Northwest Company and fur trade. He declared, in our first interviews, that I was certainly correct; and stated to me many important, otherwise inexplicable, circumstances, occurring high in the north, that were completely solved by my principle: he is regarded by such as have long known him at St. Louis, as a gentleman of a very strong and well informed mind.

In addition to the passive concurrence of several men of thinking minds, among them a venerable member of the American Philosophical Society, in this neighborhood, I have been honored with the offers of several *more enterprising spirits* to accompany me on the expedition I propose; but as the conditions with regard to my outfit by the world, are not yet complied with, I have not positively accepted of their services. I still hold my life pledged, however, for the general truth of my position, and devotion to the exploration. I calculate on the good offices of Great Britain and France, for they nurse and patronize the sciences with ardor. My wife boasts her descent from the latter, and I trace mine from the former. From the Emperor of Russia, so well known as a patron of scientific enterprise, I flatter myself with much support.

I challenge any opposers of my doctrine, to shew as sound reasons why my theory is *not* correct, as I can shew why it *is*.

I refer those who seek for truth to Rees' Cyclopædia, and any other books wherein the quadrupeds, fish, and phenomena of high latitudes are treated of; likewise those books that treat of *Venus*, *Mars*, and *Saturn*—where they will find many tests, that, if duly considered, must go to prove my position.

In the Cyclopædia, under the heads *Fishery*, *Arctic*, *Herring*, *Seal*, and all other migrating fishes, it is shewn that most or all of them retire annually beyond the *icy circle* during the winter, and return, increased in fat and numbers, in the spring; and, under the head *Reindeer*, it is stated that this animal passes annually near Hudson's Bay, in columns of 8 or 10,000, from N. to S. in the months of March and April, and return N. in October, as stated under the head *Hudson's Bay*. I propose to follow the route taken by the reindeer, northward in Siberia, where they depart every autumn, from the river Lena, (as Professor Adams, of St. Petersburg, states,) because it is probable these deer choose the best season and nearest route, to fertile and habitable lands, and because we can there obtain domestic Reindeer and civilized guides or assistants. I propose returning either in the course of thirty or forty days, or when the columns of deer return in the spring. It is presumable that man can *live* where deer *thrive*. I do not think there are no dangers attendant on such a trip, but believe the object will justify risking all probable ones.

In plate 17, vol. 33, part 2, of the Cyclopædia, the figure of Mars, with his equator towards us, exhibits his poles surrounded with single light circles, whose farther sides extend beyond the periphery of his disc. I hence conclude that his poles are *open*, and that the light reflected by the farther sides of the verges of the openings, is refracted so as to appear extended *beyond* his disc, by means of its coming to us through the atmosphere of the nearest verges.

It is a well known fact, that refraction is greatest towards the poles of the earth, owing probably to the dense atmosphere there. The apparent continuation of the margin of his true disc through these rings, (if not an imaginary line dotted there,) must be the farther verge of the second sphere within, rising by refraction, apparently as far out as the true periphery of his disc.

I contend that the space within the circumference of the arctic icy circle, if not hollow, or greatly concave, could scarce afford *space* and *surface* to maintain alive, and in health, all the fish known to come from thence annually, in the spring, even if, (without resorting to feeding on each other,) their *food* was inexhaustible, and the whole circle *water*. But floating trees being often found far north of where we see any grow, is an impressive circumstance to show it cannot all be water; and the fact that these trees are generally such as abound in the tropics, (together with several unknown species,) shows that there is a *hot* climate beyond;

and the migration of the rein deer, too, shows that moss or other vegetables abound there, and consequently land.

Pinkerton states, that the Dutch, who at different times got detained by the ice in high latitudes, could find but few fish to eat in the season of winter, which proves that the migrating fish do not winter amongst or on this side the ice.

I also refer to Dr. Darwin's notes on winds, in his Botanic Garden, (which I never read until after I adopted my theory,) where that great, although often extravagant philosopher, declared his belief that there was a great *secret*, yet to be explained, at the poles, and anticipated that the light of the present age would disclose it. The stone spheroid he found hollow and somewhat disposed in concentric strata, and the concentric iron nodules he describes, deserve to be considered.---He states that the seeds of several tropical plants are often found in the seas high north, in a state so recent as to vegetate.

I recommend the perusal of Mavor's and Pinkerton's Voyages; Pennant and Goldsmith on animated nature; and Hearn's and Mackenzie's travels---wherein many tests of my position exist. Pinkerton shows that, beyond latitude 75° the north winds are often warm in winter; that in mid-winter there falls for several weeks, almost continued rain, and that vegetables and game are more abundant at 80° than at 76° .

When my chain of reasoning (drawn from the nature of matter) first led me to the conclusion of hollow spheres, and open poles, I merely intended broaching it as a question; but, when I found the planets of the heavens, and the phenomena and natural history of the polar regions, afforded proofs incontestible, I then declared the fact without reserve; and have been considered by many, as a madman for my pains.— Were I, however, in any degree, to feel discontented by the playful, though ill-timed witticisms of others, I should comfort myself in the reflection, that, so soon as I shall succeed in the establishment of my theory, the more it has been decried, the more I shall feel honored in the even: Innovations in science or art, most commonly excite opposition.

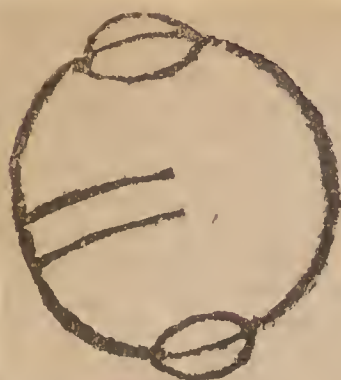
If additional reasons are required. I have an ample fund yet in store for the world.

JNO. CLEVES SYMMES.

NOTE.



This figure is made to represent a section of a nest of spheres, cut through the poles, as a outline of the formation of the earth, according to my theory; only, that there should be several more spheres added to the figure, and that the south pole should be more open than the north; that each sphere should have a cavity, (where the earthquakes and volcanoes originate) similar to that cut in the outermost sphere; that the spheres should be alternately nearer and less near each other, so as in a measure to form pairs; and that the conic space bounded by the verges of the open spheres at both poles, should be concavo-convex or bell shaped: The effect of rotation on some of the utmost inner spheres, is probably not enough to open their poles, although there is reason to believe they perform a revolution in less time than the outer ones. Imagination must supply the necessary shading.



This is the telescopic appearance of Mars, as shown in the Cyclopedie, except, that the polar rings are somewhat farther extended than in this plate.

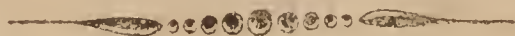


This is the telescopic appearance of Mars, found in Ferguson, alluded to in my third Memoir.

The preceding diagrams are not well proportioned, having used my pen-knife only in cutting them.

Of the first diagram, from the most northerly or extended part of one of the verges or ends of the outermost sphere, draw a short line perpendicularly through the sphere and parallel to the axis of the diagram, from which line, half way through the sphere and towards that part of the verge or tip end of the sphere nearest the axis, draw a short line at right angles with the first line, then the starting point from where the first line was commenced to be drawn, will constitute our ninetieth degree, from which point round to the termination of the last drawn line, at the tip end of the sphere, will be 90 short degrees, and from that point round to the termination of the first drawn line just within the sphere, will be other 90 short degrees, and from that down to the internal equator, 90 concave degrees will be counted—so that in passing on any given meridian quite round through the polar openings, one would traverse 720° of real latitude; yet it is probable the laws of refraction would operate so forcibly in the air, which must be densely compressed between the spheres, as to indicate by celestial observation, latitudes very different from reality.

J. C. S.



*From the Liberty Hall & Cincinnati
Gazette of July 13th 1819-*

FOR THE CINCINNATI GAZETTE.

THE WEATHER.

JULY 8TH, 1819.

It has been dry weather, with the exception of a very few thunder showers, from the 2d of May until the 6th instant; yesterday, day before, and to-day, have been rainy, with but little wind and no lightening nor gusts; the river has been very low for a month past, and began to rise briskly last night; the rain not being sufficiently copious *here* to affect the river, leads me to conclude, that the rain began to the N. E. of this, and approached gradually, nearly as slowly as the rising current of the Ohio.

It would be well to remark in future years, whether we do not annually have a rainy spell or freshet, of very general extent, and whether such rain does not approach from somewhere between N. and E. notwithstanding the prevalence of light winds from the S. West.

It must now, according to my theory of the earth, be either about the greatest height of cold, or the commencement of its declination, close under the *umbrage* of the N. polar verge, within the polar opening; that is, the greatest degree of cold that can exist there at any time when the sun is North of the line; if this rain is in any degree periodical, it may be somehow attributable to the existence of such cold within the verge producing a condensation of the air there, so as to draw the upper current of air from towards the external equator, until the increase of gravity northward condenses it to rain.

The greatest heat of the next warm period under the verge, should be near the middle of September, just before the sun crosses the line; I believe we seldom have settled rains either in the early part of September or in April, at which periods summer exists under the verge; if *heat* under the verge in April and September, produces to us dry weather or only moderate showers, *cold* there in July, should produce a contrary result; this rule may

not, however, apply to the summer that must (according to my theory) exist there about January or February, the heat of which, must arrive *through* the hollow open spheres from the South pole, where the sun is then shining; nor can it well apply to the other two winters which must occur there, the one in the latter part of November and the other in the early part of March, as the air (probably always nearly *balanced* within and between the spheres) must then have a tendency to rise from the South pole which is next the sun, to the North pole which is highest in relation to that body (as the blaze of a comet rises contrarywise from the sun's gravity, whether going towards or from him) hence no considerable vacancy or condensation can happen at such seasons within the North polar opening, to produce to us southerly winds; but rather a protrusion of air from within, must occur, which protruded air becomes colder by the distension of its molecules, on coming southward, where gravity and the incumbent weight of the atmosphere decreases: our usual thaw (most observable in New-England) about January or February, may be somehow connected with the last described summer.

An examination of the diagram of the earth's spheres, as engraved in my arctic memoir, with the relative position of the sun, subjoined by the observer, for different seasons of the year, will show the necessity of their being *relatively* three summers and three winters under the verges, as above described.

I am told that there are three annual freshets in the Ohio, that can be calculated and depended upon with tolerable certainty, which occur in the following order: early in the spring, near midsummer, and near the middle of autumn; besides which one or more intermediate freshets occur with *some degree* of regularity, between that of spring and that of midsummer. It would be well to observe whether the above described three freshets, do not coincide with the three changes from heat to cold, or from cold to heat, under the verges, which changes or seasons, are described or embraced in this note.

JNO. CLEVES SYMMES.

*From the Western Spy & Cincinnati General
Advertiser of July. 24 - 1819 -*

[For the Spy.]

Ohio Staple Commodities—Provisions.

July 17th, 1819.

As far as my observation and inquiry goes, I find it conclusive, that we generally have a rainy spell here in July, which most commonly commences between the 4th and 15th of the month. Our wheat harvest is nearly central on the 6th or 8th, (being however more early in dry seasons,) so that settled rain or frequent showers, often incommode in getting the harvest home. My object in offering these ideas is, to draw the attention of practical farmers to the consideration of the above stated circumstance, in order that experiments may be made to find a remedy for the difficulty, by those who are sensible of the evil, and who dare deviate from the practice of their fore-fathers, so far as to conform to a change of latitude; or, the variation our climate *may* undergo, as the country gradually becomes cleared. The methods I would recommend, as worthy of trial, are, 1st, to procure and use the earliest sort of wheat, and give it the most favorable cultivation to make it ripen early, and house it very soon after it is cut.

2d, To sow the latest sort of wheat, and give it the most proper cultivation to make it very late in ripening, so that the greatest violence of the rainy spell may subside, before it is necessary to cut it.

3d, Perhaps ploughing up strips of 20 inches wide, every three or four feet, on or about the 25th of April and again on the 31st of May, (where common seed is sown,) might cause it to grow so thrifty, or rank, as to make it late in ripening, and the product continue to be nearly the same;—stirring ground in dry weather increases its degree of moisture: ploughing would therefore have a tendency to prevent the wheat from ripening prematurely, as it perhaps sometimes does, in consequence of the dry season in June.

If farmers can be convinced of the facts I here state, I doubt not but that they will, either soon or late, find out a remedy, at least a partial one.

The period called, *the wet spell in July*, must according to my theory of the earth, be very general; at least along the east side of North America;—yet, the locality of seas, lakes, river-vallies and mountain-ranges, according to their size, nearness and direction, must vary the period of its acme, independent of the difference produced by latitude and longitude.

As the valley of the Ohio is a well known channel for the SW wind, it leads to a conclusion, that this rain sets in more early along it, than elsewhere on the same latitude in America. There may, however, be some other meridian of longitude, that is situated more directly under the greatest influence of that side of the polar opening farthest from the axis; hence be sooner affected by the change of season; for at such side must the winds pass in and out of the sphere with the greatest facility.

In the further support of my position, I state that I remember, as far back as the first or second harvest, which was raised in the Miami purchase, that the rains frequently interrupted us very much in getting the harvest home: and that in passing from hence up the Ohio, by water in 1814 (with the first regiment) I found the wheat was very little more forward in the neighborhood of Pittsburg when I got there, than it was at Cincinnati when I started. I hence conclude (and more especially if these rains commence at Pittsburg first, as I believe they do) that the wet spell in July is nearly or quite over, before the Monongahela harvest is cut; and we know, that *that* country produces very good wheat. I am told, the harvest at Louisville is generally got home before this rain begins; perhaps the strip of country is not wide on which the harvest and the rainy spell in July happen at the same period.

As wheat, or flour, is one of the staples of the state, would it not be a politic measure for the state legislature to grant, for a few years, such premiums as would encourage the production of a kind of wheat, that could be cut and housed before the 4th, or at least by the 10th of July; for all that part of the state south of a line passing from Marietta in a W or WNW direction across the state; and for that part of the state N or NE of such line, a like encouragement for the production of a kind of wheat that need not be cut until the major part of the rain is over, say 20th of July, or later, if practicable. If such dividing line should not be the most suitable, it could be varied after being tested; at any rate, the farmers on either side of the line, would sooner forego the premium than not use the kind of seed found to suit their situation best. The districts N and S of this line might be subdivided into ranges; and the periods fixed for obtaining or winning the premium varied according to the distance from the dividing line.

When wheat gets wet, after having been ripe and dry, whether standing or cut, it swells, and again shrinks when dry. If this does not make the wheat weigh less to the bushel, it at least injures the flour, in proportion to the frequency and excess of its swelling; it may be considered as a small degree of malting, hence, like malt, when moisture and heat is applied,

some of the spiritous or nutritious substance is volatilized to gas, and lost by evaporation. Another bad consequence attending such flour is, that the Bakers find it necessary, in order to make the bread sufficiently light and spongy, to add more pearl ash than they otherwise need, this makes it less nutritious and less healthy. In all countries it is considered a great blessing to have dry weather in harvest time; I believe England and France boast of having more dry weather in harvest, than any other part of the year, perhaps their forefathers, adopted such

sorts of wheat, as would be most suitable to cut in *their* dry seasons, and fixed upon the most suitable time to sow it, with a like view. I believe in England they sow mostly in the spring, and reap in August. We find some districts of the United States, famous for producing good flour, and others equally notable for bad. If the dryness of the harvest time in each, was compared, I presume it would be found, that those parts producing good flour, are subject to the least rain in harvest. It is important to have good barns; old settled countries, on this account, may furnish better flour than new settlements, although the climate and latitude be the same. Virginia, Pennsylvania, Maryland and Illinois, are, as far as I have learned, the most famous states in the union, for good wheat; (Ohio has her character yet to establish abroad.) It would be well for other districts to consider the causes operating there, and profit thereby.

Corn intended for bread, should be planted early, and have but few stocks growing in a hill; when gathered, it should either be stored away in the husk, or so housed, as not to be permitted to freely absorb the moist air in wet weather. The white bastard gourd seed, is the best for eating—the largest ears should be selected for meal. The Kentuckians excel in having good corn bread.

To improve the Beef, which may be counted another staple, I recommend the use of Egyptian Grass for pasture: particularly throughout the southern part of the state.

The grass I allude to grows about as high as timothy, and has blades about the same width, but is a spear grass. The country about Walnut Hills, Natchez, Fort Adams, and the levy from thence to Orleans, is covered with it. The beef and mutton fed on it is very fat, and the best tasted I ever eat. This grass has one excellent quality to suit the dry seasons in the months of June and September in Ohio, which is, that its stalks are so stubborn near the roots that animals do not eat it very close; hence the ground is prevented from being much baked by the drought, and weeds are prevented from growing amongst it. I sent up a small par-

cel of seed in 1807, and again in 1817, together with a box of sod, and brought a sod with me in 1818; but neither of my efforts (for want of proper attention after its arrival) have succeeded in getting it growing here. It grows well in Virginia, and I think would grow very well here. I shall sow some of the seed this fall.—Clover, I am told, will answer well for fall pasture, if kept up until frost, and then pastured.

JNO. CLEVES SYMMES.

Note.—Since writing the above, I learn that the harvest is 10 or 15 days later at Piqua and Mad River than here. Wheat from there is esteemed in our market.

J. C. S.

*From the Western Spy & Literary Cadet.
of February 2^d 1822.*

John Cleves Symmes will attend in person for a few days at the Cincinnati Hotel, where he requests that those who are willing to aid him in the prosecution of his philosophical pursuit will call and either lend on a long credit, or gratuitously subscribe, such sums as they may readily spare towards enabling him to accomplish his meditated journey to the Atlantic States, for the purpose of there raising a sum, (by like loans or subscriptions) sufficient to put it in his power to present himself in a suitable manner before our national government, (or any foreign power) in quest of an exploring outfit. When J. C. S. is not at the Hotel himself, the subscription paper will be found at the bar.

To the laborers in the vineyard of christianity he hopes to open a new and extensive field for the propagation of the gospel; to the philanthropist, an equal opportunity of extending the advantages of civilization; and to the merchant, a new field for commerce. He therefore calculates on their assistance.

Newport, Kentucky, January 26, 1822.

From *National Intelligencer* of Sept. 8th
- 1819 -

ON LIGHT BETWEEN THE SPHERES.

Cincinnati Reading Room,
August 19, 1819.



Draw a right line N. and S. ; cross it with one E. and W. ; extend your dividers one or two inches ; set one foot at the junction of the cross, and describe a circle ; close the dividers three or four tenths of an inch, and describe a second circle, concentric with the first : rub out 7 or 8 degrees of both these circles, on each side of the N. & S. line ; then N. of the E. and W. line draw a line parallel thereto, so as to touch both the segments of the outer circle at the north terminations ; and rub out that part of this line lying between the segments : Imagine the circular lines to be the figure of a section of two spheres of the earth, cut through the poles, and the contact of this line with the segments will, according to my theory,

be the ninetieth degree of N. latitude, (only that, before the last mentioned parallel line be drawn, the segments should be so curved inwards at their N. ends, that each segment will constitute, from the equator or first parallel line upwards, a complete quarter of an ellipsis, or quarter of a diagram of a section of an oblong spheroid, cut through its longer axis, considerably elongated, and rather suddenly bent inwards about the termination of the segments, or quarter diagrams. These minute adjustments may be dispensed with in projecting the figure, provided they are retained in the mind or imagination.) That part of the outside of this figure lying N. of the first drawn parallel, or E. and W. line, will represent a sectional outline of the surface of the earth's northern hemisphere, from the equator to the ninetieth degree, on either side of the polar opening. The parallel line last drawn will represent the true, or real horizontal plain at the ninetieth degree, at which ninetieth degree the sun is in the horizon on the 21st of March and the 21st of September, annually; but, owing to known refraction, he must appear there several days before the 21st of March and after the 21st of September. With your dividers extended at any convenient distance, not less than one or two inches, set one foot where the upper or last drawn parallel line crosses the axis of the diagram, and describe a semicircle above, or N. of this line, to represent the Heavens as existing at the axis, or at the ninetieth degree. Divide this semicircle into 180 degrees, and on the 21st of June the sun will circulate around it, (imagining it a hemisphere of the Heavens,) $23^{\circ} 30'$ above its base, on all sides, and perhaps apparently some higher, in consequence of refraction. Now, from a point $23^{\circ} 30'$ up either or both sides of this described semicircle, draw a right line, obliquely from the centre of the sun—supposed to be there—through the point where the last drawn horizontal line crosses the axis, down as far between the two concentric circles, segments, or spheres, as practicable; proportion the diameter of the sun to the distance you lay him down at from the earth, by describing a circle of a suitable diameter around his supposed centre, (the sun

being very much larger than the earth, a truly proportioned diameter need not be adhered to; indeed, his apparent diameter may answer;) and from his upper limb draw a right line obliquely between the spheres or circles, as far down as it will go, touching the outline of the inner sphere in its passage; and from the lower limb of the sun draw another right line, obliquely crossing the other two lines or rays, and terminating on the concave, as close under the edge or termination of the opposite segment, as practicable, touching the extremity of such segment on its passage. All the degrees of concave latitude between where the two last drawn lines terminate on the concavity of the first sphere, will be lighted by sun-shine, quite around the supposed sphere, once in the space of every 24 hours, for an indefinite period at any given point. Refraction will extend this field of sunshine several degrees still lower down between the spheres; and one sphere reflecting light to the other, obliquely, according to the angle of incidence, will, I find reason to conclude, cause abundance of day-light, or twilight, to extend within (independent of its progression by refraction) to, and even beyond the internal equator. To evidence which right lines may be drawn obliquely from side to side, between the spheres, in accordance with the angle of incidence, to shew the progression of the rays by reflection.

A small hole through a window shutter admits a large space of sunshine on the opposite wall. I thence conclude that the N. polar opening, estimated at about 1000 miles in diameter—although I now find reason to believe it much wider—is sufficiently wide to admit a space of sunshine that would extend within the spheres from side to side, at the internal equator; provided the sun was sufficiently high, & provided an inner sphere would not, in any degree, intercept the progress of his rays across towards the concave equator of an outer one. The south polar opening, being probably 2000 miles in diameter, must admit strong light much beyond the equator.

In accordance with this, and my general theory of hollow planets, (first declared on the 10th April, 1818,) there must of necessity be relatively three summers and three winters, each year, close under the polar verges in the concave, as I have already mentioned in my note on the local weather of Ohio, and my remarks on her staple productions.

I have heard many say they would believe my theory of the earth, could I satisfy them that the

concave, or the inner spheres, could receive light from the sun, or be lighted by any other means. I trust this memoir will clear up all such difficulties.

The diagram below, is intended to show that the sun, when on the equinoctial, (being then on the real horizon of, or at the ninetieth degree of both poles,) must, from his upper side, shine in at the N. polar opening, and from his southern hemisphere, shine in at the S. polar opening (owing to his volume being much greater than that of the earth,) independent of refraction; and by admitting a reasonable refraction, his rays may enter, as far as about the forty-fifth concave degree of latitude, and by reflection produce light, quite to the equator, from each way:—to represent which, I have drawn in the figure, the bent ray, which enters farthest between the spheres from each pole.



A stranger lately accosted me in the street, and declared that he believed my theory true, because, said he, heat always rises, therefore the earth could not continually yield it, as is certainly the case—unless the sun shone in at the poles, so as to produce heat within; and he added that a pot of water would not get hot, nor ice readily melt, by building a fire over, or on them. Although I do not fully concur in the application he makes of his position, yet I find reason to believe, that all the heat which comes out of the earth, has not previously entered the surface here.

JNO. CLEVES SYMMES.

*From the Western Spy of Cincinnati
General Advertiser, D. P. October 2, 1819*

[For the Spy.]

Reply to D. P's. Strictures.

Cincinnati Reading-Room, Sept. 15, 1819.

MESSRS. MASON & PALMER—Having last week only time to answer in part the strictures on my theory, (which you extracted from the Herald of Sept. 1st) by republishing my protest from the National Intelligencer, and making some hurried remarks as it was going to press I now conclude to offer a few more lines on the subject.

I have applied to different sovereigns of Europe for assistance, only in a general way, as I have to "all the world," including our own government.

The reacting pressure of the fluids of infinite space, (which is, I think, the cause of gravity*) should, I find reason to conclude, press nearly or quite equally on every part of the earth, provided the earth were every where equally dense and convex, and the ærial or other fluid medium, at the given points of pressure, were every where equally quiet or located, therefore if the gravity at the equator *can* be measured, and is found *less* than at other parts, it is probably more owing to the centrifugal force of the fluid medium revolving round with the earth, than to any other circumstance; for with respect to the rotation of the whole matter of this our sphere, it must be supposed to yield and flatten towards the poles, and project and accumulate towards the equator, according to the degree of velocity with which it rotates, and yield thereto; much as a whirling soap bubble would: hence upon any increase or decrease of rotation, it would vibrate until it became settled in that shape which the principle of gravitation, and force of rotation, would balance it at; therefore the relative thickness of the sphere at the equator would depend thereon, and the gravity and centrifugal force would alike correspond to each other in every change.

Not knowing how the 347 experiments were performed, I cannot deny their correctness, but however correct they may have been made, they must have been founded on the *theory* of gravity, as received in the schools; which, like my theory, is not yet admitted as an incontestible truth.

As I have not anywhere stated that the earth was a single "hollow globe," but a nest of spheres, Mr. D. P's third and fourth paragraphs need no other controversion; if there were not a *succession* of concentric spheres, I should think with him, that the sides would have a tendency to collapse, especially at the verges: Perhaps, as it is surmised in Rees's Cyclopædia, the ring of Saturn, (which rotates exceedingly rapid) may be formed on such principle; of this principle I design to treat further at a future day.

If I do not convince the world of the general truth of my theory, I must submit it and myself to be styled absurd; for however true it be, I shall have acted unwisely in undertaking what ought to have been foreseen could not be accomplished. I do not recollect to have ever read any of Kepler's or Halley's works—or even Newton's, except small quotations; I do not know how the two former founded their supposition about “concentric shells or crusts,” or whether they offered any reasons whatever, or only guessed, as many others have done, but with rather better luck than their contemporaries or predecessors: some have considered the internal part of the earth “as occupied by solid rock, others by water, others again by fire,” as Doctor Mitchel mentions in his first letter to me. Amongst so many guesses as have been made, soon or late, it would be extraordinary, if some did not hit near the truth; but it is not certain that Kepler and Halley meant *separate concentric spheres*, when they said “shells or crusts;” if they meant something like strata, with one shell or crust lying upon another, those words (as stated in the Cyclopædia under the Art. Ring) were sufficiently explicit; but if they meant *separate* shells or crusts, the word *separate* should have been used; but at any rate no one will pretend that the idea of *open poles* is not original, and that, if once admitted and established, is of an infinite deal more importance to the community, than *inaccessible concentric cavities*. I have not learned that Kepler or Halley ventured their reputations on the truth of their supposition, or that they did any thing more than surmise it; while I not only ventured mine, by an unqualified declaration, but have devoted my life to the investigation. Had I ever read or heard of any one having even *thought* of successive shells or crusts, or any thing like concentric spheres, before I published my declaratory circular, I would have noticed it, and rested my claims to originality upon showing the way to get at them. But it is the establishment of the *fact*, that I at present aim at; and it is that alone which ought to occupy the pens of all candid writers on the subject. It will be time enough when I have run the ordeal of public investigation, and borne the theory in triumph through the ridicule and doubts of incredulity, and established it upon the firm basis of public faith, to dispute my claims to originality and to decide to which the laurel shall be given,—he who wrote a surmise without establishing it, or he who risked passing for a madman upon its *truth*, entered without reserve or hesitation upon its actual demonstration, and marked out the *road*, that conducts to its permanent and incontestible establishment, to the full satisfaction of a wondering world. Respectfully,

JNO. CLEVES SYMMES.

* This idea of the nature or cause of gravity, I decided on, and declared to my friends, in 1817; and I find it supported by an opinion of Sir Richard Phillips, published in a London paper last year. I have also lately somewhere seen a quotation from Newton, which shows he has hinted that gravity might yet be found to be some such principle; tho' I believe he leaned more towards the idea that it was an innate or inherent principle contained within or immediately about the bodies producing or affected by it. My acquiring this idea of the cause of gravity, was one of the links of the chain of causes and effects, which led my reasoning faculties to fix on the new theory of open poles and concentric spheres; another important link in this chain, was a new theory in relation to the nature of the matter of heat, which I also fixed upon in 1817, and design to publish in due time.

J. C. S.

[BY REQUEST.]

[From the Cincinnati Gazette of yesterday.]
On the fever prevailing about Springfield.
 Cincinnati Reading-Room, Sept. 27, 1819.

I learn that an unusual degree of sickness prevails now, through the country between this and Hamilton, about Springfield and the head branches of Millcreek, although most other parts of this country is remarkably healthy this year, particularly the town, and along the neighborhood of the river.

Some suppose this sickness to have originated from the big pond 4 or 5 miles this side of Hamilton; but as the sickness now rages 8 or 10 miles south of the pond, in a district where there is no stagnant water, I am led to believe, from the inquiries I have made, that it is more owing to the unusual dryness of the season, and consequent scarcity of water to saturate the air with moisture sufficient to prevent it from being too great a non-conductor, than to any redundancy of stagnant water. The streams of water are very low, and many of them quite dry, as might be expected in a country where the hills are so little elevated. The cause is therefore rather to be sought for in the water used for culinary uses and drinking, than in the air.

If the wells are shallow, as I suspect they are, and nearly dry, we should perhaps ascribe the sickness to the turbidness and consequent bad quality of the water. If the country be much alluvial and the wells pass through or into gravel, the water must be strongly impregnated with the most unwholesome kind of limestone; (for I have observed that all the gravel of Ohio is formed of a kind of limestone that dissolves very much in any water which passes through it, especially as it is so much more subdivided into small fragments than the flat or strata limestone is, and as the water passes throughout amongst it without veins, and the strata limestone too is of a much harder texture, hence does not so readily dissolve.) Wells in such gravel are always much more impregnated with lime, as well as other mineral qualities, when the season is dry than when it is not.

Water strongly impregnated with some sorts of clay, has a bad astringent taste, and is probably unwholesome in very dry seasons.

If the country be not in a considerable degree alluvial, the evil may be suspected to principally result from the well water becoming so shallow and slowly supplied as to be sufficiently warm to admit the production of animalcule, or small living worms, whose qualities either irritate the nerves or injure the biliary system; or perhaps their spawn breed worms or animalcule in the bowels, so as to interrupt the proper process of digestion, or either form hard lumps or otherwise bind the bowels, until putridity and consequent fever ensue, attended with more or less bilious symptoms.

If the cause can be traced to the use of turbid water from the wells or the torpid streams, it will be advisable to boil the water, or get it from the deepest and best wells, and to deepen the wells for the future; and if the deep well water is known to be no better, cisterns should be sunk to save rain water, which is not only the most light and wholesome in all countries, but is, by a little custom, quite palatable, and may be kept almost as cool as well water.

A good precaution against fevers that are in any degree inflammatory or nervous, as well as against any contagious or epidemic disease, (particularly the dysentery, flux and influenza,) is a *hot bath*, taken either in the morning or about noon, (or both at morning & noon, if any symptoms of disease have begun to appear.) This may be continued daily, or every second or third day, as long as any danger is to be apprehended. The best method of taking this bath, is to stand in an empty tub or on a board, and with one hand slowly pour on the water, as hot as can be borne with comfort, and with the other hand rub the parts where it is pouring, beginning at the feet first, and gradually advancing to the shoulders, without wetting the face or head. Both hot and cool water should be at hand to temper the bath at a proper heat. A few minutes application is sufficient. A towel should be at hand to wipe quickly dry, beginning at the shoulders; the feet and legs may be wiped after the shirt is on. The hot bath is better at noon than morning, but it should not be taken soon after eating, or in the evening, unless the case is urgent. One or two quarts of water is sufficient. Autumn is the season best adapted to the use of the hot bath:

Flannels next the skin during the sickly season, is a precaution worthy of attention.

If the above remarks benefit only one person, I shall be amply rewarded for writing them; or if they excite any useful remarks from others, I shall be equally gratified.

JNO. CLEVES SYMMES.

*From Liberty Hall & Cincinnati Gazette.
of October 12th 1819 -*

TO THE EDITORS OF THE CINCINNATI GAZETTE.
*Remarks on "Galileo's" strictures on
Mr. Tuffts' wooden Globe experiment.*

Cincinnati Reading Room, Oct. 2, 1819.

MESSRS. EDITORS—Your paper of yesterday contains some republished strictures on Mr. Tuffts' wooden globe experiment in relation to the new theory, which I see has been inserted in several newspapers. Although they are not addressed to me, altho' they allude to me in a disrespectful manner, and altho' it is doubtful whether the writer felt as he wrote; yet, as he affects to vindicate the cause of religion, I shall undertake an answer to his objections. He endeavors to show, by a very far fetched inference, that my theory of the rotation producing the hollow spheres, &c. as treated of by Mr. Tuffts, is in a degree opposed to religion. I will just remark to the readers of those strictures, that so far from my theory or any part of it derogating from the acknowledged attributes and powers of the CREATOR, I have all along thought and still think, that the theory, if sound and acknowledged to be a truth, must & will greatly increase our veneration for and sensibility of the powers of the GOD-HEAD; which idea I trust my writings have already shewn, especially my 3d & 6th numbers.

I was taught to read at school almost entirely in the bible and testament, (as children ought now-a-days to be taught—for as a child is trained so will he incline to continue;) and so strongly was my belief in them riveted thereby, that were it possible for a Voltaire or a Paine to shake my faith for a moment, it would return again spontaneously. I feel what I yesterday heard a student of the College recite at the examination; that,

"I cannot go

"Where universal love not smiles around,
"Sustaining all yon orbs and all their suns."

Were there any thing in the scriptures that denied the existence of concentric spheres and open poles; or the yielding of the spheres to such shape as a periodical, an annual, or occasional variation in the velocity of rotation might produce; or were the succession of strata of various shell-fish remains in the crust of the earth, such as to imply that it had existed for millions of years, still, I conceive, the discoveries of philosophy, (of which the rotundity of the earth is one,) would not clash with the records of holy writ; for the earth being made by an Almighty mandate in a single day, it was made as the increase of the loaves and fishes were, by a miracle; and had the loaves and fishes been chemically analyzed, they would doubtless have been found to contain lime in the bones of the fish and gluten in the bread, the same as if they had been produced progressively; therefore a planet made by a miracle, should be precisely such as those may be which were made by the slowest possible process.

The imperfection of that part of the strictures which treats of the sun within the tropics and of navigators having been beyond lat. 82° , needs no other answer than a reference to my former numbers, particularly that of the 19th August, 1819, headed "Light between the spheres."

JNO. CLEVES SYMMES.

From Cincinnati Inquirer or Advertiser.
of August 6th 1822 -

MR. EDITOR—Please to insert in your columns the following account of an exploring party in the arctic regions; by which it appears that the Russians have made some progress in the prosecution of an expedition similar to the one I proposed in my first number; differing only in the substitution of dogs to draw the sledge in lieu of reindeer.

I again repeat the question urged in 1819, on a like occasion, viz: How long will we remain the almost quiet spectators of the noble enterprises of the Russians, our next neighbors, without emulation and without competition? If honor, or a thirst for knowledge and fame do not incite us, interest should; for the future extent of our trade in the north Pacific, and the just and desirable boundaries of our territorial limits in the north-west, I now feel confident, depends much on our prompt exertions in that quarter.

Respectfully,

JNO. CLEVES SYMMES.

Newport, Ky. July 29th, 1822.

FROM A LONDON PAPER.

Russian Discoveries.—In the year 1820, a journey of discovery by land was ordered by the government, to explore the extreme north and north-east of Asia.—Lieutenants Wrangle and Anjou, of the navy, were chosen for this expedition.—After having made the necessary preparations, they departed for Neukolyma, in the north-eastern part of Siberia. On the 19th of February, 1821, they left Neukolyma in sledges, drawn by dogs, when the cold was 32 deg. Reaumar, in order to ascertain the position of Schehaladskoi-Noss, which capt. Barney lately conjectured might be an isthmus, joining Asia with the continent of America. The travellers succeeded in determining the whole coast astronomically, going themselves entirely around the coast, and proceeding a day's journey farther to the west; thus convincing themselves that Asia and America are not united there by an isthmus. On the 13th March, the expedition returned to Neukolyma. On the 22d of March, Mr. Wrangle undertook another journey likewise on sledges drawn by dogs, with ten companions, in the direction to the north, in order to look for

the great continent which is supposed to exist there. The principal obstacle they met with, was the thin ice, which being broken to pieces by continued storms, was piled up in mountains, and rendered farther progress impossible. At a bear hunt which the company undertook, they observed a sudden bursting of the ice, accompanied with a dreadful noise resembling thunder. On their journey back, which the travellers were obliged to make without accomplishing their object, they surveyed the Bear Islands, and after an absence of 38 days, arrived safely at Neukolyma on the 28th April, where they are to remain for the year 1822, and then to continue their researches.

From the Western Spy & Literary Cadet.
of November 2^d 1822 -

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FOR THE WESTERN SPY AND LITERARY CADET.

THE POLAR VERGE.

Messrs. Editors—

One of your papers of recent date contains some account of the sufferings of Lieutenant Franklin and his party, on their journey to the west, northwest and north, from Hudson's Bay, in 1819, '20, '21 and '22; by which account it appears that he passed through a very dreary and unproductive country, in consequence of which, he suffered great hunger and privation. I, however, find nothing in that account at variance with the principles inculcated in my Theory of the Earth: for, I contend, that Lieutenant Franklin's party would have found a climate temperate and amply productive of food, had they proceeded down any of the inner meridians which they may have crossed at or shortly before reaching their greatest western distance.* By the party's pursuing a course west, northwest and north, they continued in the most sterile region of the sphere; which I contend exists along the neighborhood of the apparent verge, and between it and the real verge. This region they should have crossed with the greatest expedition, practicable; and they should have selected a season when the migrating reindeer cross those 'barren grounds,' that they might not want for food or good footing on icy bridges over the lakes; and they should also have pursued the course those deer pursue, in order to reach the inner temperate climates with the greatest expedition.

The circumstance of Lieut. Franklin's being able to travel from 1819 to 1822 in the vicinity of the apparent verge—which vicinity the principles of my Theory indicate to be the most inclement portion of the sphere—is, to me, a proof that the sterile country to be crossed in reaching the productive part of the concave, offers less difficulty in the progress across it, than I had before found reason to anticipate.

Respectfully,

JNO. CLEVES SYMMES.

* See a Map of the Northern Verge, published as a Supplement to the Western Spy of Sept. 14.

Newport, October 30, 1822.

*From the Cincinnati Advertiser of
February 1st 1823.*

REMARKS ON FRANKLIN'S ARCTIC
EXPEDITION.

MR. DAWSON—

Sir, Your paper of the 18th inst., contains a brief account of Captain Franklin's Arctic overland Expedition, relative to which I shall make a few remarks. It appears, that Captain Franklin did not succeed in gaining a higher latitude than 68 deg. 20 minutes. According to my map, he was not only beyond the apparent verge, when at the most Western bounds of his journey, but for a considerable time before. He probably passed the apparent verge at a still lower parallel than 68 degrees. Captain Parry, according to the same map, crossed the apparent verge (in 1820) considerably nearer the high side of the opening; and where he crossed it, (the needle apparently settling east and west, the north end towards the west,) he attained a higher parallel than that at which Franklin crossed it, by about 8 degrees: and captain Ross when a little short of the apparent verge, at the head of Baffin's Bay obtained a still higher latitude, because he was nearer the high side of the opening. The fishermen, who frequent Spitsbergen, which is close upon the high side, sail almost every year to the eightieth degree. These facts corroborate my theory, and conform with my map, as any one may see, who will be at the trouble to test them with it.

When Franklin was on the utmost meridian attained by Parry, though about 8 (inner) degrees more south, he was, according to my principles, on the oblique part of one of the meridians, which arise from the inner equator, and had he then travelled either a SW. course—the direc-

tion the S. end of the needle pointed in all probability—or down such meridian, it would have conducted him to the concave tropical regions; and if far enough pursued, quite through the sphere. This position is, I conceive, corroborated by many facts, and one of which is, that the two feet of snow which fell on the 5th of September hastened the reindeer away to the southward; whereas, when the autumnal snows begin to annoy those animals at the Hudson Bay settlements, they hasten away to the northward and northwestward.

Neither Franklin, Mackenzie, nor Hearne speak of the saltness of the remote sea they visited, my conclusion is, that, like Cook's river and inlet, that sea is entirely fresh. The unusual severity of the winter alluded to, and contrasted with the moderate winter in England, is corroborative of what I have advanced in my writings relative to the contrast of simultaneous seasons within and without.

My map exhibits Copper-mine river beyond Greenland: whether it be where Hearne has located it or where I place it, it is equally remarkable; that Franklin, on coasting five hundred miles eastwardly, must have been nearer Hudson's Bay at the termination of his route, than he was when at Fort Enterprize; the probable intervention of difficult starits, and a colder range of climate, made it indispensable for him to return on his back track. If Franklin visited the Athapuscow lake, he was then a considerable distance beyond the apparent verge, according to my plan of geography.

Respectfully,

JOHN CLEVES SYMMES.

Newport, Ky. Jan. 24th, 1823.

*From the National Republican of Cin.
of January 10th 1823-*

COMMUNICATED.

THE NEW THEORY.

On the 30th ult. the Investigation Society of this city, discussed the following question: Is Symmes', or the Old Theory of the Earth, best supported by facts and phenomena? After an animated debate, of about an hour and a half, the question was put to the Society and auditors, (in all about fifty) and it was carried by a decided majority, in favor of the New Theory.

The most prominent objections urged against the new theory, were, that it did not accord with the known laws of gravity; that the weight of the Earth had been ascertained by calculation to be so great, that the idea of its being in any degree hollow was untenable; that, if the centrifugal force protruded matter outwards

from the central parts of the Earth, it should protrude it onwards to infinity; that, if the Earth was many degrees open in the polar regions, a section of irregular shadow, not round, but flatted, should sometimes be cast on the Moon; that, if the general outline of the Theory were true, the inner parts could not be habitable for want of a sufficiency of light and heat to subserve the production of vegetables and animals; that, had such a formation existed, it must have been found out long before now; and finally, that were there an inhabited concave, the climate would be too uncongenial to our constitutions, to afford us any advantage, should we succeed in getting there, &c. All of which objections were rebutted by successive replies from Capt. Symmes, who was present by invitation.

The writer offers this statement without conferring with any of the Society or audience on the subject;—presuming that any inaccuracy of recollection will be rectified by other remarkers. C.

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From the Liberty Hall & Cincinnati Advertiser of November 21st 1823-

TO THE EDITORS OF THE NAT. INTELLIGENCER.

Newport, Ky. Oct. 28, 1823.

Gentlemen: To my former *three numbers of a Series of Queries relative to the Form of the Earth and other Planets*, heretofore published, and NOT YET ANSWERED, I now add a fourth number.

Why is the appearance of Jupiter's belts so often varied—and why does that planet exhibit any belts whatever? Unless the successive shadows exhibited to our view are produced by a succession of spheres, (principally exterior ones,) and the outermost the narrowest, progressively; each of which, except the exterior one, affording four (apparent) belts, viz: two bright and two dark ones; the two first being produced by means of an exhibition of both verges to view, beyond the verges of the less expanded neighboring sphere above, and the two latter by means of comparative shadows or a swallowing of the rays between the spheres.

If the positions above stated be generally well founded, then the apparent vagaries attendant on the form and proportions, and the frequently varying appearance of Jupiter's belts, may be ascribable, in part, to the freaks of refraction, (such as we find occur in the seas of our polar regions, as referred to in a number I lately sent for publication to the Editor of the National Gazette,) and, in part, to a frequent succession of sunshine and clouds, combined with the brisk rotation of the planet. Probably a relative balancing of the Spheres to and fro, and up and down, or perpendicularly and laterally, or the more rapid rotation of one sphere than another,* may occasionally vary the appearance of the belts as may alternate regions of water, dry land, or snow.

Although the perpetually varying succession of light and shade produced on Jupiter by his moons, must be too weak to produce any perceptible changes in the appearance of the shaded parts of his spheres, yet the gravitating power which his hazing moons must exercise on such spheres, may produce on them mazy or undulating movements, and, consequently, frequent relative changes of gravity which would probably produce changes of weather, which altogether would favor that interpretation of the phenomena of his belts which I offer.

If the belts are (as I understood them to be) alternately bright and shaded, like the several belts or circles seen at some seasons like one or other of Mar's poles, when presented towards us, then the attendant phenomena are, in a great degree, solvable; for by admitting that a portion of the sun-shine is reflected from the several verges, and that another portion is swallowed by the intervening vacant spaces, and that refraction bends our rays of vision between and under the spheres, as it bends a portion of the rays of the Sun, so as to produce the apparent belts of comparative shade, then a very complete solution of those wonderful appearances seen on that planet (which have heretofore, as I learn, been considered by Astronomers, as unaccountable) would be afforded. If some sections of both crusts of the spheres be formed of water alone, and if such portions become occasionally transparent, it will afford an additional reason for the varying phenomena attending the appearance of the belts.

The earth being always near the plane of Jupiter's equator, affords a sufficient reason why we can never see the sky and stars between his spheres, as we sometimes do *between the spheres of Saturn*, which occasionally presents one or other of his poles more or less obliquely towards the Earth.

As Jupiter's exterior polar belts do not appear to show entire oval rings around his polar openings, as sometimes appears around the poles of Mars when the earth is near the plane of his equator—an inference is afforded, that the reason why refraction does not appear to operate on Jupiter as on Mars and the earth, is, that the rapidity of Jupiter's rotation throws most of his atmosphere from his poles towards his equator: such must also be the case with Saturn.

The Italians, in Galileo's time, used a telescope which magnified but twelve times; the English now use one which magnifies more than sixty times; and why, I ask, should not the United States (by having an able Astronomer perpetually under pay) try to make a still further improvement in the telescope? Who will undertake to say a further improvement is impracticable?

Why, may I here ask, do not the United States send out naval expeditions to make discoveries in the yet UNEXPLORED REGIONS OF THE EARTH, as several nations of Europe have done? (in which unexplored regions, an abundance of fish and quadrupeds do, it is *generally admitted*, exist, and where, for aught the community know, men, and all kinds of animals and plants abound, and where the climate is temperate and the region fertile: *surely the Americans have not heretofore obtained greater credit for enterprize, discov-*

ery, and improvement, than their intrinsic merit will hereafter justify.)

Why, I wonder, do not the well informed either approve or put down my theory, and not keep me in perpetual suspense, daily expecting a general declaration in my favor? My utmost challenging has not drawn forth any opposition that did not vanish under the tests I applied; I am therefore, justified in such an expectation. I have many creditors who have for years past supported me at my desk, and are now generously waiting the rise of my theory, and consequent rise of my fortunes, who merit speedy relief of some sort, and who, if my theory were once fairly prostrated, whether by reasoning or exploring, I would look to some other means of satisfying.

Can it be, that the fear of being accounted singular, or over credulous, prevents individuals, who have more or less faith in my theory, from publicly avowing that faith? If public sentiment now holds such a tyrannical sway over individual opinion, it does not seem to be true, as has been stated, that I live at a period of individual freedom that gives me a much better chance of success, in the development and propogation of a new system than was afforded in the time of Galileo.

Respectfully, &c.

JNO. CLEVES SYMMES.

*If my memory serves me correctly, I have some where read, that distinguishable points, or spots, have been observed to progress faster on one belt than another, as if there was a difference in the periods of diurnal revolution with relation to some of the belts or spheres; if so, it is a strong proof of separate, open and concentric spheres. A like phenomenon has, I believe, been observed on the Sun, which is doubtless formed like other planets, and is probably equally habitable—it may be, that the general brilliancy of his atmosphere prevents any shaded belts being seen on his disc.

FOR THE CINCINNATI GAZETTE.

Remarks on the Weather.—No. 3.

Cincinnati Reading-Room, August 24, 1819.

Having commenced a series of meteorological remarks in the Gazette, I find a notice due to an annual cool spell in August.

Yesterday and to-day have been remarkably cool—so much so as to render fires agreeable—the nights have been much cooler since the 16th instant, than they were for many weeks previous; and slow rains without thunder, river fogs, or either heavy dews, or dense clouds have been more frequent.

As far as my observation goes, I find we generally, though not universally, have as cool or cooler weather—by day especially—within or during the last 16 days of August than we have throughout all September, (especially the first half.) It is now about the middle of those 16 days, we may therefore consider this cool spell as the acme of the period:—these two days past were nearly as remarkable for coolness, in 1817 and 1818.

If an annual cool spell, such as I describe, be admitted to exist, as I trust it will be, a question arises, why is it so? Were it not that we find our relatively cold and hot weather, more dependant on the course, velocity and period of the wind, than on the sun's rays, it might—by all those admitting my new theory of open poles—be explained as follows:

The sun is now probably so far south as to cease to shine forcibly under our feet at night; hence the ground must abound less in heat, either latent or free, which would measurably account for the heavy dews and fogs, (which are condensed near the earth and settle upon all growing trees and vegetables, which are good conductors,) by admitting the moisture of the air to be condensed and deposited by the relative coolness of the surface of the earth or water, as moisture is condensed and deposited on a cold rock brought into warm air or on a pitcher of ice water. Why sun shine within should produce heat through the sphere needs an explanation that I must at this time defer giving.

Secondly, during part of August and September the sun-shine falling more directly or perpendicularly under and near the verge, than before, it may so heat and disend the air there, (then almost balanced, owing to one pole becoming nearly as low as the other, in relation to the sun) that occasional winds are protruded from the north polar openings, viz. from the different spheres, and flowing out at the lower side (which lower side is next the continent of Amer-

ica) may produce to us some northerly winds. In England it should not be so, for England, independent of being further north, is not, as we are, on or near the side where the polar opening is most low, or nearest the equator; hence during most of August and September, the sun must shine in very forcibly over the lower side of the north polar opening, (which is on the American side) nearly perpendicularly under the feet of the English, at which time the higher shoulder or side of the polar opening, which is somewhat east of north from England, must tend to shut it out from shining equally forcible under us, who are 12 or 16 degrees more south than England, if not also under the same parallel of latitude, with England, throughout America, from sea to sea; hence in England August is nearer the temperature of July, than it is here; according to these arguments, the nights of August should be warmer in England than their nights in July; by the same rule April should be much nearer the temperature of May in England than it is here.

[Perhaps a progressive melting away or swerving of the verge of the polar opening, so as to cause one side to be lowest at one period, and another at a succeeding period of several centuries, may be the cause of the variation of climate, which all countries north of the tropics undergo; in the former case the sphere must be getting shorter from pole to pole.]

By considering the form of the earth, as stated in my theory of open poles, and considering the relative position of the sun at any given time, it may be perceived that June and July should be hotter here relatively to the other seasons, than in England; not only because the lower side of the north polar opening, near Hudson's Bay, is then drawing or sucking the S. W. wind over us, but because the sunshine must then strike more perpendicularly under our feet than it does under England, where it must at such time shine with great obliquity.

There are circumstances which seem to indicate that there is still some hidden reason which operates in the production of the comparative cool spell of August, besides those alluded to: the circumstances are these; the meteorological journals of England for 1813, 1814 and 1816, being all that I have seen, show that such cool spell, or at least the acme thereof, is observable in England as well as here: it appears to me from the meteorological journals that I have examined, that about an equal number of days before the vernal equinox, we often have the acme of a warm period, somewhat similar as to occurrence, namely somewhere between the 14th and last of February. Whether these circumstances are owing to a sphere or ring of water, or a sphere or ring of solids, intervening between us and the sun, or not, I require further time to consider. I can however, now say, there are strong reasons to be weighed in favor of such an idea. If

such sphere exist, and be formed in whole or in part of solids, or any matter that is not transparent, the reason we do not see it may be the same as that which causes a balloon to disappear when very high, or such as causes a pin to disappear when held between a candle and a person's eye, the candle being two feet distant and the pin about three inches. The principle of refraction bends downwards rays of light from a candle on passing over the top of a person's head—perhaps owing to a small atmosphere around us—this principle would tend to bend the rays of light each way round a sphere or ring. Whether the equinoctial storm, which is also cool, be owing to the transit of another sphere, or the central arrival of a single outer one, on the disc of the sun, will also need further investigation. There is reason to believe that these acmes, or periods, are about as fluctuating as to the time of their occurrence on different years, as is that of the equinoctial storm; they are commonly attended by occasional slow rains, without much thunder or wind, except at

their commencement. The time of sunshine between these periods, is as hot as if the rays were conveyed through a glass or any transparent lens, or as they should be if they reached us through a convex section of a sphere of water or other dense fluid. Whether it be a variation of temperature that produces a variation of wind or vice versa, appears to deserve consideration.

Most, or all the swallow kind, north of the 30th degree, rise in the air, by large flocks and disappear (for some months) about this acme, namely, about the 20th of August, as Wilson says. Wilson's work on Ornithology, shows that between October and February, in Honduras, the swallows rise from the earth in large volumes every morning, very early, and return in the evening, with great force and commotion; but whether they go out of sight, or remain all day flying through the air, he does not say.

The small strip appearing half across the disc of Mars, about his equator, (which one of the figures in my arctic memoir shows) is most probably a ring or sphere of solids: And if Mars who has no moons, has a ring around his equator, the earth having a large moon, should most probably have one or more, especially if we admit the narrow belts of Jupiter to be a succession of rings or spheres, for he has several moons; we know that saturn, who also has several moons has one or more rings. Several other reasons of like bearing have occurred to me, which the reasonable limits of a sketch of this kind, does not admit of including.

JOHN CLEVES SYMMES.

* The N. Y. Evening Post, gives an account of frost at Providence, Rhode Island, on the night of the 23d August,—this shows that the cold was general and not local.

From the Cincinnati Inquirer of Sept. 28th 1849.

Cincinnati Reading Room, Sept. 20, 1849.

Messrs. Powers & Hopkins.—Many persons have asked me what benefit can result to the community from my geological and astronomical discoveries, even

if fully verified. I have generally answered, that the advantages are unknown and yet to be developed.

If we can obtain a foreknowledge of seasons, we can then better know when and how to plant and sow.

I herewith add a venture of mine—a first essay at foretelling the seasons by means of observations of astronomical or celestial phenomena. The application of the phenomena originated in my own mind several years since, although lately enlarged upon. I have recently found in the BUSH THWACKER, a philosophical criticism, published by Mr. Uri Brooks, in 1818, a similar idea; though he thought an assemblage of the superior planets probably produced heat by friction.

The following lines are a true transcript from the journal kept on the desk of Messrs. Burk and Langdon's Reading-Room last winter, (which grew to 47 pages before June; it contains expositions of my theories by myself, and answers and remarks by other visitors of the Reading-Room;) those words in italic are since added as elucidations,—the original pages remain on the desk of the Reading-Room.

Although I may prove in error with relation to that part of the prognostication yet to be tested, the seasons up to this time, it must be admitted, have turned out almost precisely as I stated they should, in case the rule I proposed was a good one. The continued mildness of the winter, the lack of heat or backwardness of the two first months of the spring, and the excessive warmth of this summer, correspond with my position.

Respectfully,

JNO. CLEVES SYMMES.

{ Reading-Room Journal, page 21,
 { February 2, 1819.

"May not the moderation of this winter be owing to the unusual conjunction of Jupiter, Saturn, Mars, and other planets, in the neighbourhood of the sun; whereby the common gravity of the sun on the earth is so aided as to compress the earth somewhat less in size than usual? (this might happen, if the great seas are admitted to be water quite through the sphere.) In such case the internal air would be gradually exuded out at the poles, and thereby keep the external air of a steady temperature; [*or heat be set free by the compression of elastic fluids in the volcanic or mid-plane cavity of the sphere.*] If this exposition be correct, in or about six months hence the season should cease to be mild or temperate; for in that time the sun will be in opposition to this assemblage of planets, so that his gravitating action on the earth will be weakened by them: hence the sphere should then distend and gradually absorb air at the poles, so that a less than usual supply of temperate air would be supplied from within to moderate extremes; thereby an extreme or unusual hot summer should be the consequence. Had the present conjunction of planets with the sun happened in summer, it should, by this principle, produce a cool or mild summer; and had the sun been in opposition to such assembled planets this winter, it should have been a very cold winter.

"The preceding rules indicate that the ensuing spring should be cool, the summer hot, and the following fall and the fore part of the winter mild."

(Signed) JNO. CLEVES SYMMES.

The above was succeeded by remarks thereon, on the same sheet, by two anonymous writers; one of whom affected to be tickled at the idea of the earth's being a pair of bellows, and the other argued in point; but his argument being long I omit it; and add my answers to his objections; which will perhaps further elucidate my position.

"February 8th, I answer, the sun cannot gravitate the water of our planet, without gravitating the earth also. Indeed, if there were any difference, it should act more forcibly on land than water, as it is more dense.

"It is an axiom admitted, that a molecule of air or water distends on rising a mountain or so changing place as to be less gravitated by the earth; hence as gravity is increased on a body of matter, it is more compressed.

"Although the sphere in places may be only water quite through, there must, according to my theory, be a plane of space between the bottom of the inner and outer seas, filled with very rare elastic fluid or air, so that the two seas do not actually communicate."

J. C. S.

Note, Sept. 20, 1819.—As Jupiter and Saturn, the two largest planets, will be nearly conjunctive in the same quarter of the heavens with the sun all winter, (although Mars who was in their neighbourhood all last winter, will not join them until late in this,) we may calculate, according to the above rule, on a mild ensuing winter; and that the seasons for a year to come will be very similar to those for a year preceding, but approach rather more to the usual average temperature of each season respectively.

J. C. S.

REMARKS ON THE BLOWING UP OF MINES.

Cincinnati Reading-room, Oct. 11th 1819.

My friend, Doctor Mitchill, in his third letter to me, published on the 9th instant, seems to suppose (with many others) that I describe or consider the spheres as compact earth and water quite through; whereas, I have undertaken to demonstrate that they are very hollow,—containing not only a mid-plane cavity of wide and deep extent, filled with hydrogen and other very rare gases, (such as escape and condense into liquid fire and lava at the great volcanoes,) but that between such mid-plane space or cavity, and either surface, numerous other intermediate lesser cavities exist in a similar manner, lessening in extent and depth by intermediate degrees, towards both the inner and outer surface of the sphere; so that, if it were practicable to dig down to the mid-plane or volcanic cavity, the confined air would escape (at least at some seasons,) and a sort of volcanic eruption be produced. However on only digging to one of the first intermediate cavities, our progress would be stopped by the escape of confined gas protruding from such cavity—hence a temporary, or pseudo volcano, would be formed which would or should, according to my theory, continue open, until so much gas, or confined air, might escape, as to let the incumbent stratum or shell settle down in contact with the one next below. In such case, the digging could again be prosecuted, but with great danger; for, should any convulsion or earthquake occur, so as to force the confined air along such cavity,—towards where the shaft passed through it,—with a sufficient protrusive force to again elevate the incumbent strata or stratum, the consequence would be fatal to the workmen; for the rarity of such volcanic air would be so great, as to cause it to suddenly condense, on rising to where the superior gravity of the outer surface, and the incumbent weight of the atmosphere, acted on it: hence much latent heat would be set free by such condensation, so as not only to unfit it for

breathing, but occasion a scorching or burning heat. Probably it is something of this kind, that frequently happens in the deep tin and coal mines in England, whereby many workmen loose their lives. I learn that the English miners once felt or heard an earthquake that happened in Italy, while those above ground did not observe it.

I consider the rare gas, or aerial fluid, contained in the mid-plane cavity, as the principal means of the earth being bouyed up to a certain distance from the sun, and that the atmospheric or etherial sphere in which the earth floats, is more rare than that of the other spheres below it—towards the sun, and less rare than that of those spheres of medium beyond the earth, in relation to the sun.

JNO. CLEVES SYMMES.

THE NEW THEORY.

Extract of a letter from Dr. Steel to Capt. Symmes, dated

"Brownsville, Jackson County, Ill. }
September 21st, 1819." }

"SIR—Your favor of the 24th May, came to hand long since; but the pressure of domestic concerns kept me from answering it with that promptness which I should otherwise have done. In fact, the theory being new, and having no positive data from which to draw conclusions, my conjectures, in many instances, fluctuated—tho' I never gave up one item of the main point.

"My first position, of the *phosphoric strata of the inner atmosphere*, on more mature deliberation, appeared too hypothetical. It then occurred to me, that the refracting power of the ice, at the poles, might throw the sun's rays into the cavity of the earth."—"I was going on with this train of reasoning, when I found most of my conjectures anticipated, in a letter to Dr. Mitchell, from a Mr. Thomas Tufts, of Le Roy, Genessee county, N. Y. I was pleased to see the letter, as I found that we had both drew nearly the same conclusions from different trains of reasoning: and I congratulate you on having a convert of his ingenuity, who simplifies, by operative machinery, what cannot be so well elucidated by description."

"Supposing the solar rays refracted from the icy rings at the poles, the inhabitants of the inner surface can have but two nights in the year, and those of but short duration, viz: when the sun is near to, and about crossing the equinoctial line. This preponderance of day to night, must make up the difference which we may suppose to exist between the rays of heat and light coming obliquely and by refraction, to their coming in nearly a direct line, but of shorter duration, as on the surface. What a delightful climate must we suppose to be inhabited by our *interior brethren*, where the oblique rays of light never heat the surface to a great degree, and where the unfrequent and short duration of night scarcely allows the atmosphere to cool below its ordinary temperature. But the icy polar reflectors, will, I fear, long retard our steps from these elysian regions."

* * * * *

"But enough of conjecture:— Every information from the arctic regions brings additional evidence of the correctness of your theory, and I wait with impatience to hear of a voyage which will put it past contradiction. The British cabinet must have something of this kind in view—they could not have fitted out two successive expeditions to the north pole, for the purpose of viewing icebergs and Esquimaux Indians. But as the idea of a polar orifice originated in America, they are willing to keep their real design a secret. And why does our government sleep? Have their vessels of war enough employ, * * * * * without going on an adventure in which there might be some risk, but immortal renown to the nation which would achieve it."

"I think you need not be uneasy at the few converts you have made to your doctrine. Philosophical truths progress but slowly—the learned have to combat their prejudices, and the unlearned have to be

taught to think, before a new theory, however plausible, can gain the ascendancy of an antiquated error."

"Altho' I have not heard from you lately, I hope you have not given up your project of a subterranean tour, and that you will one day meet with assistance, if not from our own, from some government—tho' I could wish it to be ours who would first appreciate the value of such a discovery.

With respect and esteem, I am, dear sir, your very humble servant.

HUGH STEEL.

Capt. John Cleves Symmes.

*From the Cincinnati advertiser of
October 19th 1819.*

FOR THE INQUISITOR.
REMARKS ON THE AURORA BOREALIS.

Cincinnati Reading Room, Oct. 13, 1819.

The Aurora Borealis, which was to be seen last evening in the north, extended up the heavens in an arch, elevated about 30 deg. it did not exhibit as much party-coloured light as is usual; but a white light, which vibrated but little.

I have frequently reflected on the nature of these lights, and conclude that they are produced in the mid-plane cavity of an aerial sphere above us, by means of a vibrating tremulous motion in such sphere, similar to the vibrating convulsions of our sphere of solids in time of an earthquake. I suppose the tremulous action to progress somewhat like rapid moving waves, progressing through a very rare fluid medium; this action, by agitating and successively compressing the aerial fluid confined in the mid-plane cavity of such aerial sphere, must condense such fluid so as to set free heat and light before latent, just as heat and light are set free in the breech of an air gun when one is loading it.

The reasons I offer to account for the circumstance of these lights appearing quite down to the horizon, notwithstanding they exist very high, are as follows:—When I stand on the face of a hill, and look over a valley at the face of an opposite hill, the opposite hill appears to be more steep than real:—when navigating a small water craft through shallow water, the water ahead continually appears more shallow than real. I ascribe both these circumstances to the principle of refraction; and hence conclude by applying the principle to the clouds,—that the farther part of the lower side of a cloud is apparently bent downwards, just as the farthest part of the face of the opposite hill is bent upwards; so that the clouds which are really 45 deg. high, appear lower than real, and seem to hang downwards, however broadly horizontal their real form may be; if this principle does not appear to elevate the surface of the earth towards the clouds more than real, it at least depresses the clouds apparently towards the earth more than real. If a person were standing by a column half a mile high, and a stratum of clouds was even with the top of the column, and another similar column stood 20 or 30 miles distant, also reaching to the same stratum of clouds, such distant column would appear very short; somewhat owing to the curvature of the earth, but principally owing to the apparent contraction of the column; which contraction is chargeable to its distance from the observer: If such column, thus distantly situated, would appear to an observer at the first mentioned column, apparently but a few feet high, the clouds at its head, must appear to come quite to the ground a little space beyond the foot of the column; admit this, and it follows, that an ærial sphere when visible, must, like a stratum of clouds, soon apparently sink to the earth.

I am not at present able to offer any satisfactory reason why we should not see these lights southwards of us as well as northwards: may it be owing to the spheres nearing each other on the side reverse from the equator, especially in the winter of each hemisphere respectively?

I believe experienced observers have generally estimated the plane in which the northern lights occur, as about sixty miles above the surface of the earth; perhaps they sometimes exist in several different and succeeding spheres at the same time, one above another.

JNO. CLEVES SYMMES.

From the Western Spy of Nov. 6th 1819.

For the Spy.

CRITICISM ON ST. PIERRE, &c.

Cincinnati Reading-room, Nov. 1, 1819.

I find in St. Pierre's 'studies of nature,' vol. 1, page 113, a quotation from Childrey, who, like St. Pierre, supposed the poles of the earth to be covered with ice, so high as to give the earth's shadow on the moon an oval or elliptical form. He states, that Tycho Brahe, in 1588, and Kepler, in 1624, each observed the moon, when under a central eclipse, the plane of the earth's equator then passing nearly centrally through both the sun and moon: the eclipse in both cases he says, differed widely from the *calculation*; "for not only was the duration of total darkness extremely short, but the rest of the duration, previous and posterior to the total obscuration, was still shorter; as if the figure of the earth were elliptical, having the smaller diameter under the equator, and the greater from pole to pole."

The conclusion I draw from the above quotation, and I think fairly, is, that the calculation of the eclipse, estimated the earth to be a round globe, and of a diameter through the poles, about equal to that of the known diameter through the equator; or, in other words, he estimated the shadow, as it usually appeared on the moon in common eclipses, where the earth hangs with her axis diagonally between the sun and moon, (instead of being perpendicular to a line drawn from the sun to the moon, as was the case in the eclipse here described;) therefore, if the above eclipse was found to be of shorter duration, or less total, than was calculated, and probably oval withal, the shortness of it could not have arisen from an elongation at the poles of the earth, while her diameter at the equator remained the same; for, although an elongation at the poles, if existing at all, might produce an oblong shadow, on the moon's disc, yet it could not tend to lessen the usual size of

the shadow produced from the equator, but rather tend to enlarge the sum total of the shadow of the earth, on the disc of the moon, and thus make the eclipse more total than ordinary,—especially if the earth's shadow had so crossed over the disc of the moon, as to cause the shadow of such elongated poles, to fall on her disc and not extend beyond it.

Now, as the eclipse was less total than was calculated, and the shadow was (believed to be) oblong, it follows, that the oblong shape of the shadow, must be owing to a depression at the poles; and that either the observer of the eclipse was mistaken in supposing the shadow to be most narrow in a direction parallel to the earth's equator; or Childrey must have been mistaken in his record of the circumstances.

My principal object in summing up the above argument, was to prove by the recorded circumstances relative to the eclipse, that its shortness could not have been owing to an *elongation*, but to a great degree of *flatness* at the poles.

JNO. CLEVES SYMMES.

From the Liberty Hall of Nov. 12th 1819.

The Cincinnati Gazette.

ANSWER TO CLEON'S STRICTURES.

Cincinnati Reading-Room, Nov. 8, 1819.

Messrs. Editors—I find something to commend in the courteous manner with which Cleon assails my style of writing, (a part of one of his sentences excepted) but I conceive he proceeded farther in his criticism than the occasion justified.

As for my having an itching propensity to compose and publish, it cannot, I presume, be well supported; for, considering the importance of the theory I have undertaken to develop, and the little assistance I have received from my scholars or supporters, I have been very quiet; indeed, I at first, and for a long time after declaring my theory, hoped and believed that a few indices of hints, would serve to lead the schools of the day to adopt and develop the theory in a very ample manner, and thus save me much labor; at any rate, my publications would not more than fill a large newspaper, including all the different subjects I have treated of, since my first publication.

I could have divided the long sentence objected to, into several sentences, by explaining out the different parts of it with added words. Had I made the matter of it extend one hundred per cent. in space, it would have been more plain to every reader, and could have been comprehended without much labor of thought, but by taxing the reader his whole attention, I saved the printer much labor, and was able to say more in a given space, and make it more likely to be extracted into other papers, than I otherwise could have done.

Cleon ought not to be concerned, whether I comprehend the *subject I select to publish, or not*, (even if he had the qualification of so measuring my capacity as to perceive what I do or do not understand) provided I write so plain that he can himself comprehend my meaning; this I have endeavored to do by expanding the sentence Cleon quoted, and have had it reprinted, together with the whole twenty-two items, in a supplement to the *Spy* of the 6th instant.

So new a theory as mine is, requires, in many instances, a new modification of words and expressions, which consequently must be difficult to readily and fully comprehend and apply, by such readers as have not kept pace with the gradual developement of the theory, from my first declaration, up to this time.

I do not think the passage, selected as *a fair specimen of my style, both as to manner and matter*, is fairly selected as such, for the first part of the sentence is less *conclusive* than perhaps any other part of my writings, while the remainder is more conclusive and less qualified than is usual to me; the latter part is however most in character of my usual manner: I have been blamed for stating positions too boldly and decided, but had I minced the matter, in declaring my theory of open poles and concentric spheres, many might have thought I was not myself certain, and hence take occasion to deny me the credit due to a positive discovery.

The 22 new positions are not considered by me as new *theories*, but as *appendages* consequent on the new theory of the earth.

Respectfully,

JNO CLEVES SYMMES.

[For the Spy.]
A CARD FOR D. P.

FROM CAPT. SYMMES.

IN D. P.'s late strictures, of the 3d inst. he still contends, pertinaciously, that the new theory of the earth, which Symmes has published, should be called Halley's theory—or otherwise, Kepler's,—and not Symmes's. D. P. surely cannot suggest a doubt, of the originality of Symmes's idea of polar openings (which is by far the most important hypothesis of his Theory,—because, without such openings, the internal formation of the earth could never be ascertained by *inspection*,—nor, of course, be universally admitted by the world):—why then does he forbear making any allusion thereto; and why does he affect to consider Doctor Halley's and Kepler's, (and he might also have added Euler's if not Whiston's,) ideas of an internal magnetic *ball*, or nucleus, the same as Symmes's idea of *many* concentric *hollow* spheres, and each sphere with *open* poles. The two ideas, or theories, as they stand on record, not only differ from each other in the important points above enumerated, but differ in most if not all the minutiae attendant on each, particularly in that of the mid-plane or volcanic space, as well as in the nature of the matter of the central parts.

Doctor Halley, as D. P. states, “considered it by no means *improbable*, that the different spheres may be inhabited by *living* beings.” And the “concave arches, may in several places shine with such a substance as invests the body of the sun”—whereas on the other hand Symmes has declared that the concave (of this sphere at least,) is actually habitable; and obtains its light from the same source that we do:—and that the lands are rich, and stocked with thrifty vegetables and animals, if not men.

If the new theory can be called Kepler's or Halley's, why do not the world call it so, instead of styling it the *New Theory*? and if it cannot be called Kepler's or Halley's *Theory of the Earth*, it certainly is Symmes's, so far as it is a *new* theory;—let Kepler's and Halley's theory be called Kepler's and Halley's, and Symmes's, theory be called *Symmes's*.

For more than a year after the new Theory was promulgated throughout Europe, Asia and America,—while it was considered so extravagant and extraordinary as to be ranked as the wild effusion of a madman, it was styled Symmes's; but so soon as Symmes's arguments changed, or checked, the current of opposition,—behold a doubt arises, whether he is entitled to enough merit or originality, to have his name attached to it!

D. P. in his first strictures says: the theory as stated by Symmes, is *the same* that was published by Halley in 1692; and *now* he says, the theory is either "Halley's or Kepler's:"—so much for his investigation of authorities.

D. P. is so inconsistent as to admit, in a note to his latter strictures, that a certificate of Symmes's sanity, very properly accompanied his first circular from St. Louis. Now it is asked why a certificate of sanity was necessary if the circular was not original; and daringly so?—or, if otherwise, why was not Kepler, or Halley, or Euler, as much in need of a certificate as Symmes?

As to D. P.'s reiterated allusion to "the Captain's *want of time*," it appears both waspish and illiberal; for, surely, no writer can properly be *blamed* for being *brief*, when he comments on an essay *already in type*, and just under the press awaiting his remarks. Drowning men, however, are apt to catch at straws; and D. P. must say something; altho', if he had waited a day or two for the extended answer, of Sept. 15, he might have saved himself the trouble of exposing his want of temper in a controversy where it is so essentially necessary to success.

It appears by D. P.'s quotation, that Doctor Halley, (if not Kepler,) had suggested that "there *may be* several internal spheres," but it does not appear that they gave it as their positive belief, or recorded it as a part of their proper theories, respectively, as they did that of the earth containing a "*magnetic ball*;" (which two theories, coming from the same person,

would in fact destroy his pretensions to either—since it would be a contradiction in terms even to *suppose* they were *both* true;) nor does it appear that either Kepler or Halley *after him*, ever thought or suggested, that the supposition was in any degree applicable to the sun, the stars, and all other planetary bodies; or that it was probable or possible that the poles of the earth might be open.

As to the two propositions laid down by D. P. the overthrow of which is to cause D. P. to “believe in *his* (Symmes’s) theory,” it is thought they are sufficiently replied to for the present, in Symmes’s answer of the 15th September last, which was published in the Spy of 2d October, and which it does not appear D. P. had yet seen. D. P. will also find in the National Intelligencer of the 2d October, and the Spy of the 13th November, 1819, a reply from the editor of the Petersburg Intelligencer* to the two positions above alluded to.

On the whole, it will readily be allowed, by all those who are neither so envious nor so captious as D. P., that there is sufficient difference between a single *hollow* globe, inclosing a luminous ball, according to Euler; or a loadstone nucleus, according to Kepler and Halley; or an idea of the *supposed* possibility of the existence of a nest of inaccessible imperforate spheres:—and a *declared* system of universal concentric planetary spheres, with *immense polar openings*; to constitute, for the latter, a separate, a distinct, and a new *Theory of the Earth*.

Cincinnati Reading-room, }
November 25, 1819. }

* Capt. S. acknowledges the justice done him by the Editor of the Petersburg Intelligencer, in styling the new Theory, Symmes’s, and maintaining the originality of his idea of open poles; but at the same time, regrets that he should have inconsiderately said, that, “this is the only circumstance which appears new in the theory of Capt. Symmes,” while from the foregoing illustrations there appears to be so many points of dissimilarity.

SYMMES' THEORY.

For the Cincinnati Gazette.

MESSRS. EDITORS—Galileo's reply to Rittenhouse (who had recently answered his strictures on Mr. Tuf's explanation of a wooden globe experiment, as applied by him to the support of my theory) having been copied last week into your columns, leads me to offer some remarks thereon. I had seen the piece several weeks since in some of the eastern papers, and altho' a part of it appeared to be designed for me, yet I had concluded to leave it to the world to judge, whether it was not sufficiently controverted, in effect, by my former numbers or publications: but, as it is now so directly before me, I change my design, and reply.

1. Galileo's charge against my theory, wherein he avers it has an atheistical tendency, certainly does not justly apply to any of my explanations of it—and I doubt whether there be any passage in the scriptures that forbids Mr Tuf's explanation. If there be any passage in the Bible that forbids or contradicts my theory, I challenge Galileo to shew it by an extract or reference—since there are several passages that can be cited which have a bearing in favor of it. The very first verse of that sacred volume reads thus: "In the beginning God created the heaven and the earth;" which surely does not forbid any particular formation whatever.

2. Let Galileo give a reason why the planets must necessarily be solid, in consequence of the greatness of their velocity:—indeed, unless he knows the density of the medium through which they move, and the force of the impelling power, he cannot judge correctly of *their* density.* At any rate we find many things in nature that are wonderful and inexplicable, without being able to doubt their existence.

3. I do not think it "indispensable" that the thickness of the crust of our sphere be given; nor is it reasonable in Galileo to require or expect that I should be able or attempt decidedly to define *minutia* on such foundation as the data yet obtained affords. Were the sphere even as thick as Galileo "supposes," yet it would hardly obstruct the progress of the sun's light, much, if any more than a very thin sphere would do; for I deem it conclusive that the verge must be rounded gradually at the entrance, so that a person passing round to enter the polar opening, would continually suppose himself on a general level as elsewhere on the earth; and even after he has entered quite beyond the verge, he may not know when he is within it, except by nicely calculating the various phenomena observable.

4. I have not any where hinted at the Aurora Borealis being ascribable to the passing of the sun's light through the open poles; indeed I have otherwise explained it in a recent number.

5. Had Cook, or any other navigator, sailed to the ninetieth degree, or even beyond, that would not disprove the poles being widely open, as the extreme verge of the sphere would constitute the ninetieth degree.

6 Galileo says "the theory never can be demonstrated." He surely cannot with any degree of propriety after this, charge me with bold or extravagant declarations. How does he know that it never can be demonstrated? Most or all of those navigators who have been highest north, have represented that they found a sea free, or nearly free from ice; and that the temperature there became more mild as they advanced north. To me it appears probable that the reasons of their return from such open sea, without further penetration; was generally owing to their being perplexed, or deceived in their calculations of the course, latitude, longitude, &c. owing to extraordinary refraction and other varied phenomena; and that on their return they were either unwilling to acknowledge errors they could not account for,† or were not aware of errors they had made—which led to their return. If our nation will grant an outfit of two vessels,‡ and place them under my direction, and Galileo will join us, I feel confident I can convince him by *ocular demonstration* of the *general* truth of my theory, and perhaps lead him in at one pole and out at the other.

Respectfully,

JNO. CLEVES SYMMES.

January 6, 1820.

*There is some reason to believe that the medium in which the planets revolve, moves periodically round the sun, and bears the planets along as any floating matter is borne along a current of water.

† Navigators of the arctic seas, sometimes charge their logline, compass, clock, &c. with errors;—perhaps unjustly.

‡ I should be glad to visit Washington this winter to explain my views there, and personally ask for an exploring outfit, in case I find public opinion sufficiently favorable towards my theory to justify a hope, that my request would be granted: But this I cannot do for want of *disposable means*.

From Western Spy of May 5th 1821.

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From the National Intelligencer of April 7.
ON THE DEGREES OF LATITUDE.

TO THE EDITORS.

GENTLEMEN—I have read in your paper of the 7th October "an essay on the form of the Earth," signed "Pierre," and in that of the 21st of the same month, a reply signed "Paul;" I also read another reply signed "R. P." printed in the National Gazette of the 21st of October, 1820. All I at present wish to remark on those essays relates to the principle inculcated by Pierre, and combatted by Paul and R. P. namely, that a degree of latitude at the arctic circle being found longer than one near the equator, does not prove that the earth is flatted towards the poles, but the contrary. Although this is contradicted by the most generally received opinion in the republic of letters, yet I undertake, with Pierre, to maintain that it is mathematically true. At the same time, however, analogy teaches (and I admit) that the earth should be found greater in diameter at the equator than it is in the direction of its axis.

To proceed methodically, I cannot do better than, in the first place, to extract one of R. P.'s remarks, where he shows what constitutes a degree, viz. "let it be well understood, that any arch of a great circle on the surface of the earth, is the measure of an angle contained between two radii, not meeting at the centre of the earth, but at the centre of curvature of that arch; and hence the greater the measure of a degree of latitude, the greater must be the circle of which it is a portion; in other words, the flatter must the arch be." This is certainly a beautiful truth.

Now, on a tablet draw a line east and west, to represent the equator; cross it with another line north and south, to represent the polar axis; and where they cross set the foot of a pair of dividers opened about two or three inches, and describe a circle; then, on one of the quarter circles (the right hand one north of the equator) place a small wax taper or soft wine, fitting exactly on the quarter circle, consequently containing 90 degrees

of equal length, and extending from the equator to the axis; then draw in towards the centre that end of the wax quarter circle or curve next the axis, without bending any part of it, such movement will cause that end of the wax curve next the pole to extend over the axis, and consequently there will not remain 90 degrees *proper* between the axis and equator; besides which, there will be a slight angle at the equator where the arch of wax joins the quarter circle south of the equator. On observing the result of this movement, replace the waxen arch on the quarter circle line again; then attempt to bend (and at the same time to flatten, *if it were possible*) the end next the axis inwards towards the centre of the circle, without letting it extend across the axis and without allowing any part of it to protrude beyond the line of the true circle, and try to let the amount of bending (and if possible flattening) continually increase in quantity from the equator to the axis, so as gradually to increase the length of the degrees; it will soon be perceived that this cannot be done; for, if the end next the pole be not allowed to cross the axis, the curve will necessarily have to bulge outwards in some part, either at the equator or some place between the equator and axis. If this bulge is short of the equator, wherever it be, the degrees will there be shortened; but if the distention of the arch be at the end butting on the equator, not only will there be then a slight angle with consequent short degrees, (the southern quarter circle being bent the same way,) but the degrees of longitude along the equator will, contrary to fact, be found longer than the degrees of latitude across the equator. As neither of these last enumerated circumstances are at all pretended to exist, it is evident that this movement of the arch of wax will not prove the principle contended for by Paul and R. P. but proves that that principle does not exist.

Any person who will take the trouble to test the question with an arch of wax, as above described, although he allow the end to cross the axis, and hence prevent any part from bulging beyond the true

circle, it will be perceived that the curve of the arch can *no how* be diminished in one place without being proportionably increased in another, so long as the part nearest the equator remains with the same curvation as that of the parallel of latitude along the equator. But in case the polar end of the wax arch be extended outwards from the centre beyond the true circle, then the curve of that end will be expanded without any reduction of the curvature of any other part of it. Hence an opinion is justified (which I trust the preceding principles will go to show is correct) that the arch of wax should be bent outwards towards its north end, in order to gradually lengthen the degrees from the equator, as far as the polar circle—which is as far as we can prove that they do lengthen, for no farther have they been measured, and that it should afterwards be bent inwards in an unknown quantity, somewhere beyond that circle, if we conclude the earth to appear, when seen from other planets, to be in any degree flatted at the poles like Jupiter.

How or where the meridians of the earth terminate, cannot be indisputably determined, until we have seen or explored her surface to their termination.

JOHN CLEVES SYMMES.

Newport, Ky. Dec. 27, 1820.

☞ Were the earth ascertained to be a true sphere, the circumstance of the atmosphere being gradually more dense in advancing towards the poles, so as progressively to increase the quantity of refraction in such direction; we would be compelled to pass through a larger arch of the surface of the earth at the polar circle, to measure a degree in the heavens (and there it is, that we measure our degrees) than would be requisite at the equator; and the increase would be gradual and proportioned to the distance from the equator. If this principle be admitted to exist, throughout the planetary system, it would follow by induction, that the planets appear to us less flatted at their poles than they really are, as well as appear larger every way than they would if they had no atmosphere around them.

From Western Spy of April 21st 1821.

JOHN C. SYMMES .

Addresses himself to any who may deny that his Theory of the Earth is well founded, and asks them, to shew to the advocates of the Theory, wherein it is erroneous; and to offer any other Theory, either old or new, which will better agree with the facts, phenomena and occurrences which have been cited in support of it. For example, How the principle explained in his Memoir, No. II. founded on the known or acknowledged laws of gravity, may be refuted? Why Saturn is seen surrounded by a concentric circle or ring, which if not solid must, at least, be liquid? Why the migrating quadrupeds & water-fowl about Hudson's Bay, go northwardly in autumn, and return from the same course in the spring? Why certain rivers found by Hearne and Mackenzie (who were doubtless beyond the verge without being sensible of it) were so remarkably broad and deep as they are described to be? * Why none of the Indians Hearne saw, had ever heard of any sea to the westward? Why those Indians represent the country farther to the west or south-west was so warm as never to have any frost or snow? Why the Esquimaux Indians at Copper-mine river, have goods such as the Danes of Greenland sell, and none such as the British sell at Hudson's Bay? Why Me-lo-no-be, the Indian chief who was Hearne's guide from Hudson's Bay, pointed out Copper-mine river as lying north and running an eastwardly course, whilst Hearne makes it lie north-west and run north? Why the variation described by Capt. Parry, as lately published, corroborates the meridians long since marked on the before mentioned wooden hemisphere †

Let any who may deny the Theory to be *well founded*, answer all, or at least some, of the many arguments offered in support of it, before they undertake to pronounce it baseless. And if the author and his advocates are to be charged with defending an absurd position, let them be

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questioned in a court of argument, and judged by the world after a hearing pro and con.

It is held by the author that the theory is a pious one; that there is nothing ignoble in it; that it is simple, and so well supported by principle and by facts, that its supporters have nothing to fear from any sort of test that can be applied to it.

The author is charged with over-doing the matter, by being too enthusiastic; and is told, that it would be better policy not to take such high ground at first, but dispense with concentric spheres for the present, and maintain only one sphere, &c. The reply is, that he does reserve some of his conclusions to be ripened by further reflection; others, however, though too new to be readily admitted by the world, are necessary to exemplify with due consistency the first principles of the theory, such for example is that of concentric spheres.

Now is the time for America to shew her enterprise. The difficulty of getting as far north as Baffin, Ross, or Parry went, is as nothing: from thence an armed force of one or two hundred men, could travel with hand sledges on the snow and ice, as Hearne did, and as they return from the woodland country in the spring, haul, as he did, light bark canoes to cross the rivers and lakes, which open at that season before the snow disappears.

As certainly as this new theory is true and Hearne an honest journalist, so certainly could the party soon reach that country of abundant game which Hearne describes; in travelling through which, he did not complain of cold, although he travelled all winter, and had many Indian women in company.

There appears to be this advantage in making the trip in winter (in case the ships cannot pass the ice northward in September) that the waters are then all bridged with ice, although the cold is not excessive; this is most probably owing to the centrifugal action produced in the concave, by the rotation of the earth ope-

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rating so as to increase or aid the gravity acting on the molecules of water; hence they may be formed and preserved in a fixed state, under a less degree of cold than is requisite for a like fixation here, the elastic molecules of quicksilver must be reduced by the same law; therefore, the cold there can, at present, only be tested by feeling, and not by the thermometer; hence it is accountable why Parry's crew hunted in winter, when the average of the thermometer was below zero, and why at that season they were only driven under deck when the winds blew hard; and why Hearne could sleep without fire, by only digging a hole in the snow, down to the moss, and lying with his sledge set up edgewise to windward.

The same law should, continually, or generally, reduce the elastic molecules of the atmosphere there, and hence set free heat therefrom; and thus by the reduction


* The former states, that the grand Athapuscow river is two miles broad with loamy banks one hundred feet above the ordinary surface of the water; the depth of the river not ascertained. And the latter describes the river he descended, as being 300 feet deep and a very rapid and long river, with several large rivers coming into it. West, where Hearne went, must have been in a direction tending toward the concave equator, and at right angles with the oblique meridians marked on the wooden hemisphere shown in the lecture room. Both those travellers describe very large trees, and mention the country as being amply inhabited by men and quadrupeds.

† It is thought capt. Parry should have sailed southwardly from the extremity of the verge *towards the concave equator*, down Prince Regent, or some other southerly inlet, where it is probable he would have found a passage thro' the ice, especially if he waited sufficiently late in August or September; and on not succeeding in getting through, he might have proceeded on the ice during the winter, as Hearne did; for Parry, as well as Davis, Baffin and Ross, were doubtless beyond the *brow* of the verge, after they passed that line where the needle varied ninety degrees.

produce a flow of air from without toward the interior, which would be *an apparently* northerly wind, every where beyond the brow of the verge.

Doubtless the south polar opening would afford, at its lowest part opposite New Holland, a more certain passage by water than can be expected in the north. Indeed it would be well to equip two expeditions—one for the north and the other for the south. And we should lose no time, lest the maritime nations of Europe outdo us in the enterprise.

Lexington, March 14, 1821.

 The author is impelled by his feelings, to acknowledge and boast the attention, both general and *special*, which he has experienced while lecturing on his new theory in Lexington.

From Western Spy of September 1st 1821.

From the National Intelligencer, August 18.

TO GEOLOGISTS.

I earnestly request and desire the Geologists of the day (of whatever quarter of the world) to declare publicly for or against my new theory relative to the earth and other planets, either with or without their reasons annexed, as may best suit their convenience.

JOHN CLEVES SYMMES.

Newport, Ky. August 1, 1821.

84 From the Western Spy of Sept. 22nd 1821.

From the *National Intelligencer*.

NEWPORT, Ky. Aug. 14.

Messrs Editors—As some people, who are not much versed in my theory of the earth, may wonder that I have not treated of the moon in any of the memoirs I have published, notwithstanding it is the nearest planet to the earth, and an appendage thereto: for the information of such persons the following extract is made, which will show that I have long since treated on the characteristics of the moon. Those characteristics, it may be seen, deserve no small consideration, as a corroboration of my Mundane Theory.

As the paragraph in relation to the moon is short, I add the paragraph which succeeds it, which treats of fire balls as a proof. Respectfully,

JOHN CLEVES SYMMES.

EXTRACT,

From a lecture delivered at Cincinnati, on the 25th of March, 1820, (but not yet published) respecting the conformation of the earth and other planets: [commencing at the ninth page of the manuscript.]

“Our satellite the *Moon* may be in some degree open at the poles, (notwithstanding her slow rotation) yet, owing to her axis being always at right angles with a line drawn from her equator to the earth, we are not enabled to see whether they be open or not, especially as her atmosphere is so light or rare as not to produce much refraction. The many vast round deep caverns, seen by the aid of a telescope on the surface of the moon, appear as if they had once been polar openings; if so, the moon must have been often unbalanced, so as to change her axis, either by the action of a repeated clashing in the gravity of former sister-moons, acting on her; or by a near approach (or the concussion) of some other conflicting planetary bodies.*

“The spots of light seen at different periods, by different astronomers, on the surface of the moon near her poles, when she was on the face of the sun, in an eclipse of that luminary, are, I presume,

best accounted for by supposing the sunshine to pass through, either at one of her polar openings, or through an annular cavity on her farther side, and appearing to us through a similar cavity on this side, and near one or the other of her poles.

“Those fire balls or meteoric stones which sometimes fall to the earth, afford a very palpable proof, and serve still further to substantiate the Theory I have declared. Professor Silliman, of Yale College, in Connecticut, has preserved some of the fragments of one of those fire balls, and given the public an able description of the attendant facts which occurred when it fell; this fire ball it appears fell in Connecticut, in 1807, when progressing southwardly, and produced three successive distinct cannon-like reports, making three convulsive throes in its course (which were doubtless simultaneous with the explosions,) becoming less luminous at each throe, and quite extinguished at the third and last; three showers of stone fell to the earth in a line with its course, the second shower five miles from the first, and the last shower three or four miles from the second; some of the fragments were found to be concave, and some convex, especially on those sides of the fragments which were glazed with a sooty crusted surface as if vitrified by fire. These phenomena are such as should occur, supposing the fire ball to have been a small satellite or petty erratic planet, at first fluid, and which had so condensed by the increased action of terrestrial gravity, acting on it in consequence of its sudden approach to the earth, as to cause its fluid parts to crystalize, and form into at least three concentric spheres of solids: and the latent heat and light set free, by such rapid condensation, producing the meteoric fire and flame, (which in this case was almost equal in light to the sun at mid day) so soon as the spheres thus become sufficiently solidified, to prevent the heated ærial fluid contained in the midplace cavities of the spheres from passing out with

freedom, in case those fluids were expanded by the heat, or to let the condensation within afforded a vacuum, the solid crusts of the spheres would, in either case, be disrupted successively, one after the other, and hence lose their regular rotation, and fall in fragments to the earth; the fall of this body or cluster of matter is not a solitary instance, others have fallen in almost all known parts of the earth, attended with phenomena more or less similar."

* That part of the moon which we antiently supposed to be a sea, and hence obtained its name, appears to me, to be a section of the out-sphere of an original plane which was smaller than the moon, and which, on contact, had sunk into the body of the moon and become a part thereof. This part of the moon, may be compared in appearance, to the chrystal of a watch pressed on to an elastic ball, the diameter of which ball [or moon] is greater than the diameter of the sphere, of which the chrystal might have been a true section.

From the Western Spy of August 3^d, 1822.

CINCINNATI:

Saturday Morning, Aug. 27, 1822.

The following address is extracted from the National Intelligencer of the 20th April, including some recent amendments by the author.

Gentlemen—

I beg leave to offer, for a column of your Journal, what follows; in the hope it may not materially interfere with your pressing avocations, arising from the present session of Congress.

Respectfully,

JOHN CLEVES SYMMES.

A General Request to Learned Institutions.

I respectfully desire the various Philosophical and Literary Societies throughout America and other quarters of the world, to do me the justice, or the favour to publicly announce their dissent, provi-

ded they do not assent to my theory of the Earth, and other planets—so far as they do or may reject it; or, so far as they may decline approving it on a general scale: so that, should it, either sooner or later, be established as a truth, proof may appear of the doubts or disapprobation with which it had been received by the mass of literary contemporaries; that is to say, if I do not realize or obtain the gratification that would arise from a prompt approbation of the Societies, I may, at least, at some future day,—be entitled to receive whatever credit may ultimately result to me, from the circumstance of my having finally succeeded in establishing the general truth of a theory, which was opposed and discouraged by a majority of the most respectable schools of the day.

I trust, that the gentlemen of each literary society will, both in their corporate and individual capacities, accept my apology for addressing them through the medium of the press; when they are informed that my pecuniary resources do not readily admit of the expense and inconvenience of a written correspondence by mail, and when they take into consideration, that I have at different times, within the four years last past, written to many literary societies, without receiving any subsequent encouragement; and without producing any sort of acknowledgment or notice, except from the National Institute of France, (unless, indeed, as insinuated in the National Gazette, the Royal Society of Madrid, has had the theory under consideration, and taken some kind of public notice of it) with the exception, however, of regular replies from Dr. Mitchell, who has informed me that a Literary Society in the city of N. York, of which he is a member, has taken my seventh number under consideration. The urbanity and attention which that gentlemen has shewn me, in relation to my correspondence with him, I shall always be happy to acknowledge.

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I feel disposed, however, to attribute the silence of the Literati in general on this subject to what I deem too refined a motive of delicacy, in not wishing to wound my feelings, by open opposition to a Theory which they could not approve.

In case of their compliance with my wishes, the Societies have only to follow the precedent set by the Academy of Sciences, or National Institute, at Paris, above alluded to; which Institution, with a promptitude not yet exhibited on the subject by any Literary or Philosophical Society in America, positively and readily declared its dissent to the Theory or System, immediately upon my first and seventh numbers being laid before them by the late Count Volney, who was one of the members. This was to me far more desirable, and I think, more commendable in the Society—however repulsively it may have been couched—than an entire disregard of the subject would have been.

Public notices or remarks, in relation to my principles, communicated through the medium of the press, are to me more desirable than private letters; for private approbation or discussion, consumes time, without much promoting the general promulgation of truth. "Light should not be hid under a bushel."

Should the Societies in any degree yield to the influence of public opinion, I may hope for a compliance with my request; for, it is believed that a good portion of the community, await with no small degree of interest the decision of the Literary Societies; because, as a matter of course, it is thought, that they are best able to give a correct opinion of the truth or error of the Theory. It would be an extraordinary anomaly, should the less learned part of the community be the first to accept the Theory as a truth, or the first to decidedly disprove or reject it.

Sincerely and respectfully,

JOHN CLEVES SYMMES.

Newport, Ky. April 4, 1822.

From the Western Spy of Nov. 9th 1822. 89

FOR THE SPY AND CADET.

Messrs. Editors—

The British Newspapers inform us, that the Greenland Whale Fishery has been very unproductive this year, owing to a superabundance of ice in the Greenland sea. The most plausible reasoning that occurs to me, relative to this circumstance, is as follows. The unusual quantity of ice now found in the sea, between Spitsbergen, the North Cape, and Greenland, is most probably owing to ~~the~~ excessive rains this year in the concave temperate regions, producing great floods in the rivers, and bringing down from the interior lakes, inland seas, and straits, all the ice accumulated on their surface, discharging it into the Spitsbergen sea, which sea, being overflowed with the surplus water thus poured into it, carried the ice onwards to the Greenland sea, to the great annoyance of the fishermen. Why the rain in the northern concave hemisphere should be unusually great this year, may be owing to the same cause—whatever that cause may be—which has at the same time produced an unusual quantity here.

There is another circumstance which has probably made the ice more annoying to the fishing vessels than common, viz:

It was announced last summer, in the Copenhagen Gazette, that the winter at Iceland, last past, was unusually severe in proportion to other winters; whilst the winter in the rest of Europe, less high north, was milder than usual. Now if Iceland is close under the verge, as I describe it to be in my map published in Sept. last; it follows that all that side of the concave regions under Europe must have had a severe winter in correspondence with that of Iceland; and therefore more and thicker ice than common must have been formed.

The principal fact on which I founded my conjecture, (stated in my map) that the inner winters are coldest when ours are warmest, (at least on any given side of a hemisphere) was, in addition to the above mentioned fact, certain information derived from the settlers on Greenland.

(which is also on my map, located within the verge,) who say that they always have their hardest winters when we have our mildest: also information derived from fishermen, who say that when the winter is mild in England they are sure to find a superabundance of ice in the northern seas.

All the preceding statement being admitted, it follows that the coming winter will afford a favorable time for a steam vessel to penetrate by the way of Spitsbergen, up some principal river heading in the inner temperate zones; because as this appears to be a rainy year, the rivers may be expected to keep unusually high; and as the straits and wider parts of the rivers, have been well cleared out by a high spring flood, large channels will be likely to be kept open all this winter,—especially when it is considered that the well replenished rivers will be flowing from a tropical region, and probably with a brisk current.

The worst to be apprehended is, that the ice accumulated this summer between Spitsbergen and Greenland may not be sufficiently melted or drifted south, to afford a free passage between Greenland and Spitsbergen: but I think there is little risk on that score, as the Russian hunters say the sea is entirely open all winter quite across the north end of Spitsbergen; and well informed writers state that the sea is open all winter, midway between Spitsbergen and Greenland.

As my Theory is now well matured, and the above stated seasonable concurrence of favorable circumstances invite to immediate enterprize; and as a suitable steam-ship is afloat on the sea (the Robert Fulton*) what is to prevent an exploring expedition from departing under favorable auspices this winter? I believe there is nothing to prevent but the want of a general concurrence of public opinion favorable to my Theory. The nation is now at peace, and every part is calm; our resources are improving, our citizens are generally enterprising, and other nations evidently expect from us something signal. Shall we not now be roused to

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some noble enterprize, something that shall keep national spirit awake? Will not our Agriculturalists, our Merchants and Mechanics, join hand in hand in calling loudly for an expedition worthy the nation, and worthy the occasion?

Respectfully,

JNO. CLEVES SYMMES.

Newport, Nov. 6, 1822.

* If it be doubted whether a sufficiency of fuel could be carried to answer until wood could be found, steam or sail tenders might accompany the steam ship a part of the way to replenish it with wood and coals, and the ship should have masts and sails to use as a dernier resort. It is a pretty clear point that there can be no floating ice to be encountered in winter, as what remains in autumn will unite to one or the other shore.

J. C. S.

From the Cincinnati Gazette,

Newport, Ky. July 29th, 1822.

*To the Editors of the public journals
throughout the United States.*

JOHN CLEVES SYMMES, having for several years past been engaged in contemplating and discussing the physiology of our planet;*—and having satisfied his own mind, and the minds of many enlightened characters, that it is composed of an outer and interior world or worlds, open at both poles;—he is, still, as heretofore, anxious to demonstrate at all hazards, the truth and necessity of his Theory, by personally exploring the new world of the Concave, by way of either of the polar openings. Such an attempt, he flatters himself, would not only result in the never-fading fame of our rising nation, but add, at the same time, to the general stock of useful knowledge, and diffuse incalculable benefits on the land of his nativity, and on the world at large.

He is not unaware that his positions may probably, for some time yet to come, continue to be, as they have heretofore been, treated by *the many* (a majority of whom have, perhaps, not examined them) as the visionary schemes of an enthusiastic projector. This was not, at first, expected by him:—but it has happened in his case, and—as human nature is constituted—the like must often happen, in a greater or less degree, (such new suggestions as present a boldness of feature, calculated, as it were, to take men by surprise. All other considerations

apart, is it presumable that the Creator—whom we are confident has done nothing in vain—created this our earth, for the single purpose of occupying its surface alone with animated matter, while the great bulk of it would be suffered to remain an inert and useless mass? This, it seems, would but ill comport with the wise economy that appears to pervade the universe.

Those who may believe in this new Theory of the Earth, either in whole or in part, and those believing only in the *possibility* of its truth, the subscriber now invokes:—He desires that some one in each populous neighborhood throughout the union, may write, circulate for subscription, and ultimately forward to Washington (early in the ensuing session) a Memorial to Congress of the following import, namely:

We, the subscribers, are of opinion that both the public interest and the national honor would be promoted by equipping an exploring party, to be constituted as follows, viz: Two vessels, well found for the purpose, furnished with suitable materials and preparations to enable the party to travel, when beyond the temperate parallels, either by land or on the ice, and provisioned for two years; also furnished with such articles as may be acceptable to the aboriginal natives whom the party may happen to meet with. And it is our farther opinion, that a few scientific and enterprising men should be selected and attached to the expedition, and a liberal allowance made for their support, and that they be provided with suitable instruments and apparatus for taking and recording observations.

We, therefore, pray Congress to grant an exploring outfit, in conformity to our memorial, & thereby at once subserve the cause of philosophy and the wishes of a large portion of your constituents.

NOTE.—Distant Editors throughout the Union are requested to give the above an insertion in their columns, and the author will be thankful for a copy from each, with any remarks that may arise therefrom. The note below may be left out where it is not altogether convenient to insert it.

* The author has completed (ready for engraving) a map of the northern hemisphere—in conformity to his Theory—including the concave as well as the convex zones, showing, both, the real and apparent place of the verge, and thereby exhibiting the general inclination of the plane of the polar opening, and—relatively to the apparent verge—the consequent curves of the meridians (both the inner and outer) where they wind up the slopes—almost parallel with the

ridge of the verge—to their junction on the high shoulder; also the winding curvature of the parallels of latitude, where they pass over either slope of the opening, eastwardly on the one hand, and westwardly on the other, until they close in the concave.

The author is now able to show the location of the true verge with confidence. He at first presumed the verge to exist near where he, on this map, locates the apparent verge; but he has subsequently found (what is probably owing to refraction and to the verge being all a water level and the turn gradual) that the existence of the verge is unknown to its inhabitants, and that it is located within the civilized regions of Europe, and considerably to the south of some settlements of white people in America—and many hundred miles this side of the APPARENT verge; the concave space between the two, being bent out and elevated to an apparent continuous convexity, by means of an extraordinary refraction, and gradually falling off inwardly every where beyond the apparent verge,—preserving, however, throughout the concave, an apparent convex surface: all of which, is proveable by many directly applicable and excellent tests, both animate and inanimate.

From Liberty Hall of February 21st 1823.

FOR THE CINCINNATI GAZETTE.

GENTLEMEN—I have lately received, from the author, a copy of Doctor Newman's work mentioned in the paragraph below which is extracted from the National Intelligencer of the 14th instant, I have deposited the book in Mr. Langdon's Reading Room for public inspection. I venture whatever reputation I may have, for just opinions in philosophy, that the views or principles of Doctor Newman, as contained in the quoted part of the paragraph below, particularly the parts which I have taken the liberty of marking in italics, are as well founded as they are new.

Respectfully,

JOHN CLEVES SYMMES.

Newport, Ky. Jan. 31, 1823.

FROM THE NATIONAL INTELLIGENCER.

TO THE EDITORS.

GENTLEMEN—I request you to publish the following extract of a letter from Doctor Newman, of Hampshire county, Va. It contains a condensed view of the new and ingenious doctrines advanced by that gentleman, in a work which is before the public, entitled, "First views of the nature and treatment of Hydropic Affections:" a work, which contains a number of interesting medical facts, and which is entitled to much more attention from the profession, than it has heretofore received:

"That no fluid or solid can move unless unequally pressed; and then it moves in the line of the diminution of the pressure. A particle of matter, equally pressed, cannot move. A ball moving on an inclined plane moves under the influence of unequal pressures. The planets move upon the same principle. If the sun were stationary in the centre of the system, diminutions of pressure could not exist, and the planets, consequently, could not move. The motion of that body gives motion to the planets. The diminutions of pressure formed by the heart, gives motion to all the fluids of the body. ATTRACTIONS and REPULSIONS have never been understood; because, in nature, they never had an existence. We have been deceived by appearances, and the scholastic ascription of properties to matter which matter could not possess."

From
National
Republican
of July 11th
1823.

Messrs. Editors—

You are requested to insert in your paper the following remarks, which appeared in the Ohio Republican during the recent visit of Capt. SYMMES to Zanesville and Newark.

NEW THEORY OF THE WORLD.

The citizens of this place were agreeably entertained a few evenings since by the presence of Capt. J. CLEVES SYMMES, who by request delivered a lecture on his new theory that the *world is hollow*, and consists of a number of *concentric spheres*. He illustrated and explained his doctrines by the use of two globes, painted with the proper devices, one of which was sawn in two for the purpose of explanation upon the interior part of the globe.—

Whatever opinion we entertain generally upon this subject, we are nevertheless free to say, that there is much method and great ingenuity in the facts and reasoning advanced by captain Symmes in support of his theory; and we have little doubt, that were he possessed of the peculiar talent of a first rate lecturer, he would easily convert thousands into a belief of the truth of his doctrines.

His conclusions were generally drawn from the principles of gravitation and attraction—the voyage of eminent navigators in the northern seas, in search of a north west passage—the difficulties in keeping time in those regions, and the irregularity of the mariner's compass—the currents on the coast of Iceland—the timber trees of a different climate found floating in those seas—the migration of rein deer and various fowls northwardly—the observations and discoveries of the celebrated travelers Hearne, and Mackenzie, in relation to Indian nations, number of animals, rivers of immense size and force, their course, estuaries, &c. &c. All of which, presuming to have been correctly stated by capt. Symmes, were brought to bear upon his theory, that after sailing *north* to a certain point will pass over the *verge* and enter into the interior or border of the cavity of the earth, without any sensible variation, only that to proceed *forward*, the naviga-

tor must at a given point steer south, or he will come back to the place he left at the verge, &c. The Capt. has executed on wood, a diagram or map of a part of the northern hemisphere, with the interior portion attached, in *planisphere* with the parallels of latitude, &c. The country he calls SYMMESONIA. This is but just; for should this undiscovered country prove a reality, we trust our modern philosopher will not suffer the wrongs of a *Columbus*.

From the National Intelligencer.

GENTLEMEN—

The Ice-Bergs, or Ice-Islands, mentioned in your paper of the 17th instant, as having been recently seen in north lat. 42, with earth on some of them, and occupied by birds and seals, are, I conceive, fragments of the concave crust of the sphere, which have been undermined until broken off from where the surface stratum is formed of christalized water, in lieu of chrysalized silex, lime, or other mineral; on the surface of which *ice-rock*, I suppose, moss once grew, and ultimately formed a soil, in which trees or other vegetables were produced. See that part of Mackenzie's Journal where he was beyond the line I mark for the real verge: he there found trees growing on an ice formation, whereon the soil was thin.

Some of these floating ice-islands being now found unusually far south, indicate to me that there has been much rain recently in the concave; which has so increased the current of the north sea, as to drift the deep ice further south than usual. It seems as if the sea, like the atmosphere, was divided into strata, which permits, as in the clouds, an *under-current*, when there is none, or even a *contrary* one, above; for, such ice-islands are seen to progress, and plough through the surface-water, like the prow of a ship, even against the wind.

If the concave floods are this year unusually high, it is probable that the quantity of last winter cake-ice broken up and drifted out, as far as the pass between Greenland and Spitzbergen, must be so great as to bar any vessel from passing through it until it is dissolved or dispersed. Respectfully,

JOHN CLEVES SYMMES.

Newark, Ohio, May 29th, 1823.

From National Republican of Feby. 4th 1823 = 97

FOR THE NATIONAL REPUBLICAN.

Remarks on passing events, applied as corroborating the new theory of the Earth.

European papers state, that the last winter was unusually cold in Iceland, and unusually mild in the more southern parts of Europe; and the Greenlanders say, they have their coldest winters whenever the more southern countries have mild ones: also, the fishermen say, when they have a mild winter in England, they are sure to meet with an unusual quantity of ice in the Greenland sea.

These circumstances have proved to me—what is recently further confirmed, by the unusual quantity of ice found last year in the northern seas—that Iceland and Greenland are within the concave, and border on the verge; and that the severity of the winters depend on our sphere balancing nearer or farther, on any given side, from its next-neighbour sphere. Those two countries do not, I conclude, admit of gardening or the culture of grain; because the sun's rays reach them much more faintly than without, owing to their being bent by refraction.

For the application of many other facts, such as a darker sea and sky, a less dazzling sun, &c. which go to show that those two countries exist beyond the real verge, and between it and the apparent verge, I refer my reader to my map and explanation published as a newspaper supplement, in Cincinnati, in September last.

The first number of The Museum of Foreign Literature and Science (edited by Mr. Walsh) contains an account of a general and extraordinary fall of the barometer in various parts of Europe on the 24th, 25th and 26th of December, 1821, simultaneous with which fall, a volcano in Iceland was in a state of irruption.

By this account it appears that the acme of lowness of the barometer occurred at a great distance from the volcano, and thence progressively nearer (in lines almost at right angles with the verge, the magnetic equator and the climates) until it reached Iceland on the last of the three days.

At Lyons, where the barometer was at the lowest, the mercury fell to twenty-five and three fourths inches: hence the pressure of the atmosphere at Lyons was reduced about one seventh.

The extraordinary lowness of the barometer above stated, was most probably owing to the general surface of the earth in Europe—including the sea—being somewhat elevated by an elastic ærial fluid existing in the mid-plane-space, a portion of which elastic fluid escaping progressively by means of the irruption of the volcano, permitted the surface of the earth to subside, by which subsidence the incumbent pressure on the barometer temporarily lessened.

Why a subsidence of the crust should lessen the incumbent pressure, may be questioned; but, if it be admitted that there is another sphere of some sort (whether it be constituted of solids or of compacted fluids is not material) over our heads, as there are many reasons to believe there is, the above will no longer be a questionable conclusion, but a very natural one.

Perhaps the sphere, with its equators, may be exemplified by turning in a lathe a hollow sphere with open poles, and delineating thereon a true equatorial belt equidistant from the verges, to represent the magnetic equator, and also marking the climates equidistant from each other, between

it and the verges, and parallel thereto; then to represent the terrestrial equator, change the axis of revolution (12 or 15 degrees) and circumscribe another equatorial belt at an angle of 12 or 15 degrees with the former, adding the tropics parallel to it, and a declination in the planes of the verges will be the consequence of the change of axis, and the whole will represent such a formation as I describe in my map.

Between the outer and inner crust of such model the mid-plane-space I describe may be imagined to exist, with an extension greatest under the magnetic equator and gradually lessening towards the verges.

Probably the axis of the earth was originally in the centre of the openings, and was changed by some extraordinary catastrophe or conjunction of celestial bodies. If so, the original climates must have been alike on like parallels of latitude; and, the terrestrial and magnetic equator must have then coincided.

If the axis of the earth was originally at right angles with the plane of the earth's orbit or the ecliptic, it is

probable that the same cause that depressed it, with relation to the heavens, changed it in relation to the polar verges.

JNO. CLEVES SYMMES.

Newport, Ky. Jan. 9, 1823.

From National Republican of Feby. 4th 1823.

FOR THE NATIONAL REPUBLICAN.

The first Chapter of a series of Questions.

MESSRS. EDITORS—

I ask all who doubt the correctness of my Theory of the earth, the following questions :

Why did Captain Ross, when in Baffin's Bay, see the Aurora Borealis very often in the south, even down to the horizon, and very seldom to the north?—unless it be that he was within the concave, described in my map, published in September last: in which case the verge behind him, where the light appeared, would be to the south.

Why does the Barometer fluctuate but very little high north, (as Captain Ross states) whilst in lower latitudes, —viz. south of the verge drawn on my map,—it fluctuates greatly: vascillating less and less as it advances towards the equator, and scarcely varying at all within the tropics—why does it thus correspond with my principles, unless my theory and map be correct?

Why are the tides at their greatest general heighth, on the east coast of north America, between New-England and the north of Labrador; and on the N. W. coast, between Columbia river and Bherings strait; and thence become lower, as one progresses north, until they entirely cease beyond Bherings strait, and almost cease beyond Davis's straits; and decline southward in like manner, until they cease at the equator?—How happens this, unless my conclusions are well founded, as explained in the map?

Why is the (excessive) variation of the needle found permanent in Baffin's Bay, and other places very high north, whilst the variation on this side of where I mark the verge, is sometimes to the east of north, and sometimes to the west,—unless my system of oblique meridians is correct?

Why did the Indians, with whom Capt. Ross conversed high up in Baffin's Bay, inform him, that ice was less abundant further north, unless my theory is correct?—which shows that the climate grows milder and milder in advancing beyond the icy circle or zone.

Why was the food found by Capt. Ross in the stomach of a seal, so different from the sustenance of other animals?—unless they feed in some place as much unknown to us as is the mid-plane-space I describe.

And whither does the seal in Baffin's and Hudson's Bay retire in winter, if it be not to the mid-plane-space?—for Hearne states that they do not go northwards from Hudson's Bay up any of the straits; and that they are not seen in those seas in winter; I believe no one will say they migrate to the south of Greenland.

Whether the great black Whales, which frequent Baffin's Bay, retire up the straits. Captain Parry will probably be able to say, when he returns:—but I presume that they do not; and, it is my belief, that any fishermen who frequent that bay will deny that they migrate to the southward of Greenland, when they disappear from Davis's straits. Respectfully,

JNO. CLEVES SYMMES.

New-port, Ky. Jan. 9, 1823.

COMMUNICATED.

Gentlemen: To my first number of a series of questions, dated in January last, and printed in your paper, I now add a second—the former being yet unanswered.

Any who doubt the correctness of my Theory of the Earth, are desired to answer the following queries:

Why does a west course from Europe, along any given parallel of latitude, lead progressively to a climate of colder winters, as far west as the plains of Missouri, and why is a reverse course, toward the east coast of Asia, attended with a like result, unless the formation I describe, in my map or diagram of September 1822, be correct? In that map, and its description, I represent the verges to be parallel to the magnetic equator, and the (*natural*) climates to be parallel to both. If to the above positions, the most common, though partial answer be offered, namely, that the Atlantic ameliorates the western or northwestern winds reaching Europe, I may then further ask, why does not the Pacific produce a like effect on the west coast of America? Although timber is exported from Norway, perhaps as high north as latitude 68° , yet *Cook* found few trees along the N. W. coast of America beyond about the fifty third degree of N. latitude.

Why do distant objects generally seem to loom up, or faintly appear, as if pictured on the sky about the horizon, when seen towards any point of the compass, beyond the verge I mark, unless the surface there, though apparently convex, be really concave? And why may the shores be discovered at the distance of 200 miles, as *Ross* or *Parry* has stated to be the case in *Baffin's Bay*, unless the formation there be different from ours?

Why, in the same regions, may the *Sun* be regarded with the naked eye, like the *Moon*; and why is the sky and the sea of a darker color there, as I am well informed is the case, unless the rays of light are weakened by being bent over the verge I describe?

To enable all those who have not seen my map, to test my questions by local facts, I here repeat, that I mark the Northern Verge, on a map of the Globe, as follows, viz: Beginning at latitude 68° in Norway, and proceeding on a line trending south of west, down to about latitude 50° in the Pacific, thence trending north of west, progressively, in like manner, to the point of departure, about latitude 68° in Norway, so as to include within the verge the greater part of Iceland and Greenland, and a part of Labrador and Hudson Bay, which line traverses the N. W. coast, about latitude 52° or 53° , and crosses Kamschatka about latitude 54° , and proceeds so as to include *within* the sphere the greater part of Siberia, notwithstanding Siberia, Greenland, Iceland, &c. are apparently all, (owing to refraction, as I contend,) without the sphere; being situated between where I mark the real and apparent verge.

Why does this sloping line, on which I locate the verge, *every where mark*, (with but slight exception,) *the termination of the climate where trees will grow*; also, the climate where grain, grass, and culinary vegetables are produced, between which line, and the North Sea, or Ocean, in Asia—and in America, between the same line and the “Barren Ground,” only such animals as feed on moss, or animal food, exist—as far as I can learn—I say, why do such extraordinary facts exist, which facts so well correspond with my Theory as they do, unless my principles are well founded?

Why do extraordinary cold winters occur in Europe every where south of the line I mark for the verge, simultaneously with extraordinary mild ones, in Greenland and Iceland, and *vice versa*, as I have heretofore shown to be the case in one of my former numbers, unless the line I define divides the outer from the inner regions?

Why did a volcano, in the Andes, produce an irruption of water abounding with fish? And, why was one of the extraordinary earthquakes at Lisbon simultaneously attended by a great disturbance in the waters of Lake Ontario—as Humboldt states, unless a mid-plane space exists?*

Why is the country, beyond *such a declining verge* as I mark, more generally cut up by arms of the sea, or narrow fresh water lakes, with very bold shore, than is the case on this side of it, as I am taught by my reading is the fact, unless the two regions exist under circumstances more widely different than the existence of an entire sphere would be likely to justify or produce?

Why do timber, bears, wolves, and foxes, drift on the north coast of Iceland; and, why is it, that a man of Norway cannot bend a Laplander's bow—as Brooks' Gazetteer states—unless it be that such timber and animals are drifted out from more temperate regions beyond and within; and, that the Laplander, situated within, is more compactly enveloped by a highly compressed atmosphere, or, is otherwise firmer compacted by a more forceful gravity in the concave, than the Norwegian is without?

Why does the north, both in Asia and America, pour forth vast herds of rein deer, which, migrating from the more northern regions, proceed almost as far south "in the months of March and April," as *the verge* I mark? And why are those deer with their young, led back (by instinct, hunger, or habit,) over the ice of the then frozen seas and lakes, when the snows begin to fall in October; unless a more temperate climate exists somewhere beyond those cold regions they leave? And, how can a more temperate climate exist, (especially in winter) any where towards the axis, if the earth be a solid globe, or the sphere be entire?

Why is it, that, beyond the verge I mark, it is found that that course which the migrating reindeer pursue, and which the north point of the needle regards, and on which the most prevailing ground-swells advance, is (apparent) northeastwardly in Asia, and northwestwardly in America, unless it be, that the slope of the great plane of the verge, and the consequent curvature, or deviation of the meridians of longitude, and the winding of the parallels of latitude, are such as I describe?

Why is Saturn so formed that we can see stars through the space between his two rings or spheres, and the barrel shaped part of the planet situated within the rings, unless that great and rapidly rotating planet is formed somehow on the principle of concentric spheres, with open poles, such as I describe; and, if so, how can it be that any of the other planets should be formed solid, or with entire spheres?—Our best evidence in relation to what we do not see, is analogy: therefore, independent of known terrestrial facts, and the acknowledged principles of gravity, analogy teaches us that the earth must be constituted of concentric spheres, much or little open at the poles, in proportion to the rapidity of rotation around its axis.

If those tests in this number which apply to the existence and locality of the northern verge, do not satisfy the reader that the verge exists where I locate it, he should, I contend, be able to account for such facts existing as they do, upon some other principles, either *old* or *new*. In other words; the locality of the verge, as above stated, being within our well known geographical limits, I contend, that all who do not acknowledge the existence and position of the verge, as here stated, ought to be able to show, by local facts, its non-existence.

Why are several of the following facts and particulars inexplicable upon the principles of the *Old Theory* of the earth, and are yet easily explained upon the principles of the *New Theory*, unless the latter be *best supported by facts or phenomena*?

[A west course from Drontheim, in Norway, leading beyond Hudson's Bay until it reaches the meridians on which the mouth of M'Kenzie's River, and the mouth of Coppermine river, respectively exist, will, I contend, wind into the concave over the American slope of the verge to where North and South are nearly reversed as relates to us.]

At the mouths of the two rivers above named, *Hearne* and M'Kenzie, respectively, found Esquimaux Indians, an *unwarlike* and *insulated* people, who are otherwise only known to inhabit between the east and north points from Hudson's Bay.

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Those *Ésquimaux* whom Hearne found at Coppermine river (probably when he was beyond the farther end of Baffin's Bay) were, he says, supplied with *only Danish Goods*, "such as the Danes sell in Greenland." Why is it thus, unless those two rivers empty into straits existing immediately behind or north of Baffin's or Hudson's Bay, and communicating therewith? If so, the respective mouths of those two rivers must exist on some of the inner meridian, as represented on my map.

The Indians told McKenzie, whilst descending the river† which he discovered, that he was proceeding towards the white man's country, and that two trading ships had recently visited whiteman's lake below.

M'Kenzie found, at the mouth of his river, the same kind of *white* whales that are common in the north of Hudson's Bay. He also found the climate apparently colder and the country more sterile at the head and mouth of the river than elsewhere along the intermediate region.

None of these few latter particulars, except the supply of Danish goods, are more strikingly applicable, as a corroboration of my theory, than the fact, that the celebrated Indian Chief, *Melonobe*, Hearne's guide, did, after Hearne's journey, contend with the latter—as Capt. Ross states—that Copper Mine river did not exist to the N. W. *but due north*, which accords with my principles, as my map shows.

It would seem, too, that, at the mouths of those two rivers, the tides were not found to be more high, the sea less fresh, nor islands less abundant, than might be expected to be the case in the Straits existing immediately north of Hudson's and Baffin's Bays.

I contend as follows, (although I may be in part mistaken,) viz. That the Grand Athapuscow river and lake, found by Hearne, exists very far beyond the apparent verge. Hearne marks them on his

† This River, I find by fair deductions, disembogues nearer the Hudson Bay settlements than Copper-mine river does, and it must consequently have been crossed by Hearne, probably on the ice, at a point where he supposed it to be a Lake. Hearne crossed several long and narrow tracts of water, which he called Lakes.

map at a point South of latitude 60° , and, (probably owing to some error,) on a meridian where all the neighboring region is now occupied on our common maps, by rivers and lakes of a different character, which have been more recently explored and delineated. Hence I infer, that, although both Arabasca and Slave Lake are within the concave, yet the great lake Hearne discovered, although on or about the same parallel, is still further within, and on the inverted meridians.

If Parry's Voyage, or Franklin's Journey, were to be procured in this region, I could, perhaps, form my conclusions with more certainty. I clamber forward, one step upon principle, and the next upon fact, in search of truth. Respectfully, &c.

JOHN CLEVES SYMMES.

Newport, Ky. Sept. 1823.

* Some travellers describe that Lake to be, in one part, bottomless, or unfathomable. If the statement be true, which was published in the newspapers a few years since, that a *seal* has twice been taken in that Lake, since the first settlement of the country, the fact affords a further corroboration of the existence of a mid plane-space—more especially if there be any fish which only appear in the Lake periodically,

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MAP OF THE NORTHERN VERGE.

SUPPLEMENT TO THE
WESTERN SPY & LITERARY CADET,
For September 14, 1822.—Cincinnati.



"Beneath the circling Bear,
"A vast Camelion drinks and vomits air."
DARWIN.

Messrs. Editors—

I offer to the public, through the medium of your Journal, the following diagram or map, as a delineation of the northern verge, impressed from a wooden block carved with my penknife; this, with the explanations, I present, rather as an exposition of the constituent principles of my Theory of the Earth, than as a collection of proofs of its truth; still however, I am induced to hope a minute observer will find much evidence confirming its correctness couched in the explanations I adduce.

The large, dotted circle, bounded on the lower side by the edge of the map, represents the locality of the real verge; the lesser dotted circle, represents the ridge of the *apparent* verge: to this place, refraction apparently elevates and brings up the interior concave surface; every where between these two circles, a navigator, or an astronomer, should find the situation of the celestial bodies the same as if the *apparent* verge with its declination was real and as if it existed without refraction; that is to say, the surface of the concave existing between the real and *apparent* verge, should, and it is contended does, appear unbent, or rather straightened out, and elevated by means of a degree of refraction (which may seem to us extraordinary) to an *apparent*, continuous convexity, but gradually less and less convex. Beyond the *apparent* verge, there must appear to be a gradual falling off inwardly, preserving, however, throughout the concave, from verge to verge, an *apparent* convex surface; the space between the real and *apparent* verge must receive the sun's rays very much weakened, owing to their being greatly bent by refraction; but it is not so (according to the principle of this Theory) beyond the *apparent* verge, for there the rays must fall more direct, and be received with most intensity, when the sun is on the contrary side of the heavens. It is probable that the reason the shadow of the earth on the moon appears nearly a true circle, even when the sun and moon are in the plane of the earth's equator, is,

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that the rays of light bent into the polar openings, are prevented from reaching the moon, so that the earth produces a shadow the same as it would do if the apparent verge was a real one, and not produced by refraction.*

The lower side of the map is the south side of the opening, from whence it slopes up on either hand to the high side.

Those meridians marked within the lesser dotted circle are interior meridians, and those without are the proper exterior ones: all those meridians that are not continued quite up to the ninetieth degree, are to be imagined continuous.

The small cross on the upper side of the large dotted circle, represents the high side of the real verge, and is supposed to be at or near the Maalstroem. The junction of the meridians, an inch and a half below the cross, shows the high side of

the apparent verge, and constitutes the ninetieth degree.

The exterior circular line represents the fiftieth parallel of latitude, and the next within, the sixtieth parallel, and the two others, within that, the seventieth and eightieth. It is only the seventieth parallel which is marked continuous until a close or junction is effected, along the concave, within and beyond the apparent verge; those three parallels left unclosed are to be imagined by the observer, as continuous like the seventieth; with relation to the outer one, however, the manner in which it is discontinuous is as yet doubtful. A fifth inner parallel was omitted, owing to the difficulty of cutting it; but it may be imagined to exist, as if scribed by dividers near the centre of the map, and about one and three fourths of an inch in diameter, traversing the inner ends of the inner meridians. It will represent a parallel of latitude somewhat between the inner fiftieth degree and the concave equator. An eye viewing this parallel from a position high over the centre of the opening, would probably see the verge apparently thrown back by refraction, and the innermost regions narrow, † somewhat like looking into a bell-shaped wine glass: should not, however, the interference of an inner sphere prevent a part of the view by means of its verge, being thrown out, in like manner. As the rays of light and rays of vision are parallel, or are the same, a person in the

* May it not be, that the successive verges, of successive strata of high aerial spheres, operating like prisms, successively bend the rays of light, until they pass over the real verge around to the surface of the concave?

concave would see the heavenly bodies with the same angle as if the real form of the earth was such as it would appear to be to the eye, so suspended over the opening.

The curvature of the meridians is owing to their necessarily winding up the sloped sides of the verges or apparent verges, which sloped sides are the consequence of the plane of the polar opening being inclined to the plane of the equator, at an angle of 12 or 15 degrees. Thence we can account for a difference in character between certain winds in Asia and America, and for the migrating animals going and coming, to and from, the N. E. in Asia, and the N. W. in America. It is concluded, that the meridians are not crowded so much on the slopes of the apparent verge as they seem to be on this map. The two curves defined by M M M throughout, represent the two curves of no variation, ascending from the magnetic equator, and finally meeting, it is conjectured, at the high side of the real verge. These curves must proceed inversely the same way on the south verge; and, I trust, will at some future day prove to us what is the real shape of the sphere.

The supposed position and existence of the river, marked as r sing from within that circle which I have described as omitted near the centre, is founded on a conjecture supported by principle, together, with some indirect data.—Probably it is the largest river in the world; and it is presumable, discharges its waters by several mouths, one of which, is conjectured to branch off from the main channel to the right and enter at Baffin's Bay, and another to branch off from the left and discharge near Nova Zembla. This river I conclude may be entered, in some seasons, by sailing beyond Spitsbergen, and finding its principal mouth. Perhaps a steam ship would be the best calculated for such an enterprize, as it could avoid being crowded by the ice in narrow places where the wind would not serve for escape; and, it would be best for progressing, independently of calms or contrary winds, and such a vessel would be particularly well calculated to ascend the Great River; against the strong current which I suppose to prevail in it, especially, in the spring and summer, when its floods must be most profuse.

I conclude that vessels can pass into the sea beyond Spitsbergen best in autumn, or probably in midwinter; for, the breaking up of the Great River and its straights, lakes and branches, in the spring, must bring down ice enough to choke the bay, or gulph, at its outlet, for most or all the summer, and perhaps until late in autumn; but the river bringing water somewhat warm from the inner tropical regions, may

have its channel open after other places have closed by ice; and the spring and summer floods subsiding, must prevent other ice from descending to again choke the channel when once open. Fuel to create steam, must be abundant on the banks of the river; both growing trees and driftwood.

Any person wishing to see how the land should lie on this map, can trace the known shores, with a pencil, from any map, or maps, of the northern hemisphere, drawing them on the proper degrees of latitude and longitude called for in the original maps, and the difference between the old and new will be contrasted, by drawing with a pencil and rule, straight meridians quite across the map, and tracing the shores on them also. The position of the mouths of Mackenzie's and Copper-mine rivers on the old maps (as laid down in Barrington and Beaufoy "on approaching the north pole," whose scale I have based this map on) is represented by [A] for the former, and [B] for the latter; and, the old position of Bhering's Strait is represented by [c].

The figure 1 represents both the meridian of London and the fiftieth parallel of latitude. 2 represents 30° W. longitude, and 3 sixty degrees west longitude,—4 England,—5 the peak of the high side of the verge in Norway, at or near the Maalstrom, and about latitude 68° N.,—6 the North Cape,—7 Spitsbergen,—8 Iceland: Mount Hecla of this island is probably on the verge, and may be likened to a chimney, (inasmuch as it exists on the ridge of the north polar verge) near the peak, and doubtless serves to convey off rare air, too crowded in the great Mid-plane-space, with which space it must communicate, according to my system; for I conclude that this space, throughout, feeds the volcanos with rare air, condensing into flame and cinders in consequence of the incumbent pressure, and greater gravity of the external surface, acting on it as it rises. Each concentric sphere of every planetary body throughout the universe, is, I conclude, formed in like manner and by the same rule. Probably the earth is constituted of at least five such concentric spheres of solids, attended with numerous intermediate transparent ærial ones.—When we look into the poles of Mars we count the edges of four successive spheres reflecting light, and the intermediate spaces swallowing it; this it seems is the case, although Mars is less than the earth, and has no satellite.

I do not suppose that all the spheres of the earth revolve around or on one and the same axis, or that their actual axis is continually at, or even near, the centre; probably they all occasionally balance and vibrate towards and from each other, however perpetually they revolve together on a general scale. The native copper and iron found among the northern In-

dians, when Hudson's Bay and N. W. coast was first discovered, and down to the present day, is, probably, the production of fire-balls, which form and circulate between the spheres, until they ultimately condense to solids and fall.—Such I think is the mass of native copper and extraneous rock, lately seen by Gov. Cas; and Mr. Schoolcraft. I myself possess an extraneous rock of this class containing native iron & nickel, weighing 280 pounds; which I found on an alluvial formation in this neighborhood. At present, the Indians of the concave are, I conclude, supplied with large quantities of our bar iron, furnished through successive links of commerce from nation to nation, from the N. W. coast to the concave equatorial regions, where it is doubtless manufactured and used. Hence it is, I conceive, that bar iron, in small pieces, is now, and ever has been, since the trade on that coast was first discovered, one of the best articles that can be taken, to trade for fur. It is near Iceland where the mackarel and herring first appear; the former, if not both, it is currently believed by intelligent fishermen, rise up there from the depths of the sea. It is my belief that they do thus rise, at or near the true verge, and that they come from the great Mid-plane space which I describe as necessarily existing between the inner and outer surfaces or crusts of the sphere. If they do not come from

thence, from whence do they come? By Indian information it would appear that there are no other seas but narrow straits to produce them, beyond the apparent verge; at least as far as the inner tropical regions; and some facts indicate much farther,* and if they do come from the concave, why are they never seen far north of Iceland? The seals come and go twice annually; whence come they? Humboldt says a volcano in South America vomited water and fish.† 9, 9, 9, Greenland,—10 Baffin's Bay,—11 Labrador,—12 Hudson's Bay,—13 Fort Churchill. It is from this fort that Hearne commenced his journey, fifty years

*Some Indians informed Hearne that they occasionally travelled west and south to a country of no winter and no frost,—consequently they must have been as far as the inner tropical regions,—and they said they could hear of no sea.

† If it be a fact that the migrating fish are produced in the great Mid-plane-space, how admirable is the providence of the Creator in this particular: how far beyond our former conception of it is his wisdom in perfecting our globe, and his beneficence in affording us this portion of our subsistence; and how humble should man be, seeing that for a numerous succession of ages a considerable portion of the human family has been bountifully and luxuriously fed, without a single person being yet able to tell with any great degree of certainty whence supplied; or even heretofore, believing that a space, below, afforded such an abundance of food to man and subserved the pleasures of life to myriads of creatures, links in the great chain of animal creation.

since. I find that he was farther in the concave than Mackenzie, Davis, Baffin, Ross or Parry. He found a climate where men were abundant, happy, healthy, and long-lived; and trees and animals very large and thrifty. Upon the whole, I find grounds to conclude that both animals and vegetables are larger and more thrifty, as well as more various in kinds, within than without the sphere.

Lake Superior is represented by number 14, and Quebec by 15—16 represents Boston—17 New-York—18 Philadelphia—19 New-Orleans—20 Gulf of Mexico—21 Cincinnati and Newport—22 St. Louis—23 the isthmus of California—24, 24, 24, the North-west Coast—25 Lake Winnepig—26 Slave Lake—27, a bent dart, represents a portion of Mackenzie's river—the point of the dart representing the mouth—which river is previously united with the Grand Athapuscow river, (coming from the inner tropical regions on the left.) Mackenzie's river may be delineated in conformity to this location of its mouth, and yet be drawn on the very same courses Mackenzie records or nearly so, the longitude will, however, count greater than he counted,—28 the Athapuscow Lake,—29 a portion of the Grand Athapuscow river,—30, a bent dart, represents a portion of Hearne's Copper Mine river, the point of the dart representing the mouth. I lay down this river as being beyond Mackenzie's, which is contrary to all the maps hitherto published. It is also placed to the N. E. of Hudson's Bay instead of N. W., perhaps it may empty as low down as O in "SYMMESONIA." It appears plainly, to me, that Hearne must have crossed Mackenzie's river before he reached either Copper river or Athapuscow Lake: the winding of the parallels of latitude brought him round towards the head of Baffin's Bay, when he thought he was proceeding in almost a contrary direction, his most general course being west and north-west. He has not even once informed us of the variation of his compass, I presume it was nearly the same as that Capt. Parry found on his voyage in 1820, as mentioned in the Edinburgh or Monthly Review: the journal of Capt. Parry's voyage I have not yet seen.

Queries.—Were not the seas (or more probably straits) which Hearne and Mackenzie found, fresh? Did they not both find the shores of those seas or straits inhabited by Esquimaux, a people whose known and proper country lies along the north-eastern shores of America; and had not the Esquimaux seen by Hearne, such goods as the Danes sell in Greenland, and none such as the British sell at Hudson's Bay? And did not Hearne and his Indian guide Melonobe,

on their return, differ very materially in describing the course towards Copper-Mine river and the course it runs, the Indian nearly concurring with the view I had taken of it before I saw Ross' voyage, where the difference is noticed? Did not Mackenzie's successive Indian guides say, that the river he traced ran towards his own country, and into *White man's Lake*?—And did he not see at its mouth white whales, a species before unknown (as I believe) except in the north-east parts of Hudson's Bay? Did he not find the climate more mild, and the country more fertile, midway of his journey, than at the mouth or head of the river? Did not the frequent heavy rains he experienced in June, July and August, concur with my principles?—for I conclude, that the great gravity, far in the concave, condenses the vapour generated from the ocean on the external regions of the sphere—reaching there, into such copious periodical rains as to produce greater rivers than other countries can afford. And must not this water, in seeking a general level, take the nearest and best direction to the exterior oceans, and hence account for the freshness of our northern seas, and for the circumstance of there being a current from them towards the south?

31 represents the mouth of Cook's river; this is probably a very large river heading in the inner tropical regions; from the heads of which there may be a navigable communication with the sources of other great rivers discharging their waters into Hudson's or Baffin's Bay, or into the sea beyond Spitsbergen; and there is some probability that the heads of all the large rivers of the north concave hemisphere offer a navigable communication, at times with the seas of the south concave hemisphere. 32, 32, 32, 32, 32, the Fox islands, these islands are probably not so cold as the rest of the real verge, owing to their being on its low side. 33 Bhering's strait,—34 Kam. schatka,—35 mouth of the river Lena,—36, 36, 36, 36, part of the coast of the American Continent, continuing quite around the hemisphere, except straits and lakes,—37 Nova Zembla,—38 Archangel,—39 St. Petersburg,—40 Germany,—41 France,—42 Spain,—43 the Mediterranean,—44, 44, these two darts show the direction of the magnetic needle; also the direction observed by migrating birds and quadrupeds—45, this dart shows the supposed direction of the magnetic needle and course of migrating animals and birds, under the high shoulder of the verge,—46, 46, 46, the direction of the currents from the northern seas, is shown by these three darts; down some of these currents, recent tropical seeds and large green trees are found floating, a part of which are known to grow only in tropical climates;—47, the Black Sea,—48, 48, Chinese Tary.

The letter E in 'SYMMES' about the centre of the map, is at or near the geometrical axis.

The vacant space left in the map near its centre, is to be filled by the observer's imagining how the inner meridians would appear if exhibited under the general circumstances I describe, including refraction.

I conclude that it is at the real verge, where the excessive and *permanent* variation, prevailing high north, *begins*, and that such variation is owing to the curvature of the meridians, and not to any deviation of the needle; and that the needle will nearly correspond with the clock, as far within the sphere as it will continue to traverse and settle towards any definite point. In other words, the clock will disagree with the sun as much as the needle does. It appears probable, that beyond and within the verge, the intensity of the magnetic force gradually decreases as one progresses towards the inner equator; and, that a great sterility of soil, and a subsoil frequently frozen all summer, with an inclement climate, commences ~~at or a little beyond the extremity of the real verge—~~ These circumstances cannot, however, continue much beyond the apparent verge. I also conclude that but few of the migrating birds, quadrupeds or whales are in the habit of crossing the real verge, either way, however gradual its turn, and however level its appearance, not even where rivers cross it either way; that in all probability there are no volcanos or maaltroms existing beyond it in the concave; that the length of the degrees of latitude beyond, are diverse; longer in some parts and shorter in others;—that the winters beyond the verge in the concave are always (comparatively) mild or severe, in reverse of ours; that the height of the tides decreases as one passes beyond the verge; and that the flood-tide, probably, runs one way on the outside of it and the contrary way on the inside; and that the tides gradually decline towards the temperate inner regions, until they ultimately cease entirely;§ that the intensity of light decreases, particularly for some indefinite distance beyond the brow or extreme part of the verge—that the intensity of gravity gradually increases from the verge to the inner equator, in a greater ratio than it increases from the external equator to the verge; that it is, generally, most healthy beyond the verge in the concave, for man, and all other animals, provided they are well subsisted; that animals bred within the sphere, are prone to pine away and die when long removed without; that the temperature of our different climates depend upon the distance from the verge, and that every climate lies parallel with it, as does the magnetic equator; that the winds are more periodical over the slope on this side the north opening than over the slope on the other side; hence, perhaps, the monsoon like currents of six months alternate south west and northerly winds may occur, which, I contend, we experience in America, from and towards the north (especially on the plains of Missouri) just as the monsoon currents are experienced in India, which currents originate in an inverse manner from and towards the south.*

§ That the variation within the verge is permanent while it periodically changes without.

* These currents of wind could be more consistently accounted for, if admitted to flow towards or from the parallel verges of a narrower sphere outside of the one we inhabit, either in whole or in part—in consequence of alternate suction and protrusion.

If small things may serve to elucidate great ones, a gong used as an auger, will evidence when turned in sand, how the air should tend to flow in at one sloped side of the opening more than at the other, in consequence of the rotation of the Earth—at least under certain aspects of the sun—dependant, however, in part, on an alternate periodical acme of condensity of air, in either concave hemisphere; this may account for the Russian slope of the opening having the seasons more temperate in relation to extremes, and a more habitable climate than exists on the side of Hudson's Bay; and, as the southern verge is parallel to the northern, it will equally well account for the temperature of New Zealand—which is still more equable than Siberia in relation to extremes, and so it should be, for that island not only lies under like circumstances, in relation to the south opening, but the dimensions of the south opening appears to be much greater than that of the north; it would also account for Europe and the west of northern Asia being more temperate than North America, and South America being more temperate than Java.†

I conclude that the curves of no variation do not traverse either verge at any point except the high and low side. And, that the character of the winds between the real and apparent verge, will appear to vary in correspondence with the apparent variation of the needle.

The tints of the ocean and sky, and various meteoric, electric, and other particular phenomena, may afford indications of the locality of the real verge, and, more particularly indicate when one is entirely beyond it.‡

† The N. W. monsoon currents of wind in Java and indeed throughout all India, if I am rightly informed, is at its acme in December and January, and answer to our prevailing summer S. W. wind, which is at its acme in June and July; and, the S. E. and other southerly winds of India, which are at their height in June and July, answer to our N. W. and other northerly winds, which are most prevalent in December and January. This is corroborated by the grassy plains between the Mississippi and Rocky Mountains, producing scarce any trees from the verge to Mexico; along the middle of which plains, on the parallels of the middle and eastern states, the summer heat is very often from 90 to 97 degrees, and the winter cold several degrees below nought.

‡ If, contrary to my expectation, any part of the sphere, or spheres, are to be seen in the heavens by an inhabitant of the concave, I presume it will be only from the neighborhood of the internal equator; and finally, that it is more than probable, that even at the inner equator the spheres in the heavens will appear if they are in the least transparent—like those distant mountains, which, under certain circumstances, appear blue, and almost undistinguishable from the sky; perhaps their appearance in the heavens may be comparable to a shadow, or something somewhat visible, though transparent; for, the stars being seen behind the ring, by means of refraction—a conclusion of transparency or vacancy will be produced in the minds of the observers.

Will not the increase of gravity towards and within the verge, if such as I describe, account for the great condensation of the fluids of the thermometer, when high north; and, account for the facility with which water and other fluids crystalize there? If it will not, how was it that Parry's crew endured the open air when the fluid in the thermometer was low in the extreme, with so little inconvenience as they did?

There is, I conceive, but little to be apprehended from intemperate weather within the concave. Hearne travelled in mid-winter without dwelling much on the cold, except while in the neighborhood of Hudson's Bay, where he started from; and even there, it cannot be great, as he started on his journey in winter. Col. Dixon, of the Hudson Bay Company, when just from the Bay this year, informed me that he could travel there against the N. W. wind when the quicksilver was solid, with as little inconvenience as he experiences in travelling here in ordinary cold winter weather.

The more minute data on which the explanations and conjectures I offer are founded, I design to lay before the public as soon as it can be suitably done; or, as much thereof as will be necessary to satisfy the thinking world of the general truth of the principles I profess.

If my averring that the tangent with which a stone leaves a long sling makes a less sudden angle with the circle described by the stone before let fly, than is the case with a short sling, goes to prove that the centrifugal force becomes less removed from a horizontal direction, as matter is removed farther from the centre: and if my saying gravity is an impelling rather than a pulling power (owing, perhaps, to the circumstance of all space being replete with an elastic fluid) and that this impelling or repulsing power acts more forcibly on any given space of the surface of a large sphere than on that of a small one—I say, if my offering these two suggestions (whether now or at any future time) to account for the circumstance of any matter diverging from the centre stopping at some finite distance, does not satisfy the reader, it may be passed over as nugatory, without detriment to the main question: for, the surface we tread upon proves that the matter of the Earth *has* stopped: and *any thing* we put in rotation shows the centrifugal force. And the same thing will apply to many other of my arguments. For example, if I err in telling how the rays of the sun fall, by this or that law, on the concave within, it matters not, provided I prove they really do fall, &c. &c.

I am of course subject to error as well as other men—Newton left many things unaccounted for, and some that he attempted (the tides for example) were but imperfectly accounted for; yet, we do not therefore deny those things be established on a stable base; I expect no one to receive my conclusions for more than he finds them to be worth after weighing them in the balance of reason. I must, like other theorists, be allowed the privilege of drawing conclusions and advancing them, as I have done throughout the piece—without always stating the process by which they were deduced; otherwise I cannot be as brief in my explanations, as circumstances may require.

Respectfully,

JNO. CLEVES SYMMES,

Newport, Ky. Aug. 20, 1822.

NOTE.

J. C. S. has had this supplement struck off a week or two before it will accompany the newspaper, with a view to sell as many copies as practicable towards covering the expense he is often incurring in disseminating his writings; and, with a view of getting it more generally reprinted in distant towns, and distant countries; for which purpose, *single* copies will be immediately sent off—first to the postmasters of the capitals—and to others soon after—to be handed to some one publisher who will take the trouble of getting a map carved or engraved, for which there will be ample time before any Editors here will forward it in or with their newspapers. The author is very desirous that it should be republished abroad either gratis or for sale. Whoever may, soon or late, republish it for sale, are requested to be good enough to secure to the author, by mail or otherwise, a share of the nett proceeds. The price of the copies will, of course, be set by the publisher: perhaps twenty or thirty cents would be readily given, were it understood that the author gets a due share of the profits.

NOTE.—Every community and individual throughout the world are especially invited, by the author, to investigate the subject of the preceding piece as though it were addressed to them individually.

NOTE.—John Cleves Symmes will be much obliged, if the Postmaster at

town, will deliver this map to the person who may appear to be most likely to accomplish the purpose for which the piece is thus early forwarded, as specified above.

To the Editors of the National Intelligencer.

GENTLEMEN.—This letter is intended for any person or persons who may be pleased to receive it as addressed to him or them.

Newark, Ohio, April 17.

I have journeyed here, and am too sick to travel homeward or onward, and am without sufficient funds to pay my way much longer, and none at home to draw for. O! that some of the citizens of our metropolis would subscribe, and authorize me to draw for, what would keep the discoverer of new worlds from the cramp of want and depression; but for lack of finances I should long since personally explained my principles at Washington and other Atlantic cities. I say, new worlds, for besides the *Concave*, I prove that both surfaces in the Mid-plane-space are inhabited by animals; also, the adjoining sphere above and below us.

I prove that the herring, and other migrating fish of Europe inhabit the Convex, and the herring, &c. of the east coast of North America, the concave surface in the Mid-plane-space, and that the martin family inhabit the concave of the sphere over our heads, and the peculiar water fowl, of Hudson's Bay, and other parts of borders of the concave of our sphere (seen on this sphere* only in summer) inhabit the convex of the neighboring sphere within: those water fowl go naked whilst here, and the martin do the same whilst away, as is proved by caging them all winter.

I have an essay written, specifying particular proofs of these positions; but, under present circumstances, it is likely to linger long on hand in an uncorrected state. Respectfully,

JOHN CLEVES SYMMES.

*See Hearne's Journey. Hearne saw no martins far beyond where I mark the real verge; nor could any of the Indians he ever saw tell where some species of the water fowl, seen at Hudson's Bay, went to in winter, or where they raised their young, although he saw Indians who had been so far beyond Hudson's Bay that the climate produced no frost.

From National Republican of July 25th 1823 -

BY REQUEST.

To the editors of the National Intelligencer.

Gentlemen : Your paper of the 11th inst. contains an account of a Russian officer's having journeyed from Siberia fifty days on the ice of the Northern seas, until an open sea was found. This is no more than I had expected, and indeed not so much, for I had expected land might soon be found to the Northeast (apparent) on starting from any part of the coast of Siberia. I think it highly probable that the explorers progressed too much to the (apparent) north, to reach land in the nearest direction ; especially, if they had not full faith in the obliquity of the meridians, described in my several memoirs.

A north course (apparent) from any part of Siberia, would according to my principles, lead an explorer along a segment of an unequal or elliptical curve, between the two continents, unto the ninetieth degree in the Spitzbergen sea. The best course to be observed, would be the course the north point of the needle regarded, which would there first be (apparent) northeastwardly, afterwards eastwardly, and ultimately southeastwardly.

In case the needle fails to traverse well, it will be highly probable that some terrestrial phenomenon may be found to afford a more suitable guide than the stars, for the stars will of course (apparently) turn with the apparent meridians. Probably an inverse direction from the quarter of the heavens where the central part of the Aurora Borealis most generally appears (in case it appears southwardly at the Siberian coast, as it does in Baffin's Bay) would be correct ; or, if there be a regular wind that prevails much in any one direction, which may be recognized by any peculiar characteristics, it can be laid under contribution as an assistant guide ; such a wind will not curve like the meridians, but proceed, as direct as a monsoon or trade wind.

On sailing, in summer, the most general course from which the ground-swells proceed, will indicate the most correct course towards the inner equatorial regions; and, according to my calculations, the most direct course towards the nearest land of the inner continent. If any one quarter of the horizon is regularly more or less luminous than another, it will afford a good guide in those seasons when the sun is absent. Pinkerton mentions a "black bank" seen all winter to the north of Nova Zembla, in lat. 78 degrees.

Respectfully,

JNO. CLEVES SYMMES.

Newport, (Ky.) June 23d, 1823.

Extract of a letter, dated 6th May, 1823, from a late officer of the army to J. C. Symmes.

SIR: It was my intention long since to have written to you, requesting you to forward to me a copy of your theory of the internal or hollow situation of the earth.— I learn that you were in Zanesville in March last. Had I known that you were there, I would have made a pleasant journey of thirty miles for the purpose of conversing with you respecting your views.

Should it be convenient, I would take it as a great favour if you would forward to me, to this place, a copy of your theory, with the explanatory map, (if I may so term it,) and a line from yourself.

I am just going into my 30th year; but, from the reports I have seen from the British discovery ships, I do not hesitate in believing that, if my life and health permit, I may ere I arrive at 45, be an eye witness to the truth of your theory. Columbus's theory of a "new world," in which we now are, was undoubtedly more lightly esteemed, and more grossly ridiculed, at his first endeavors at discovery, than yours are. He had, perhaps, not more prejudices to overcome than you have, considering the age in which he lived compared with the present; but patience is a requisite necessary in the composition of philosophic men; and I hope you will have enough to persist and persevere in your project, notwithstanding the attempts of barlesquing editors of newspapers and paltry writers to blast your spirit of discovery and enterprize.

We are both citizens of the world, and in opinions at least closely related. Should it happen in my day (and should you live) that the necessary aid could be procured, from any government, or power to fit out an exploring expedition, as you once proposed, I am determined to be one of the number. The works of my pencil, (I am a general draftsman) would hand my name to posterity, or the snows of the northern hemisphere be my winding-sheet.

Very respectfully, your friend,
Capt. Symmes.

From National Intelligencer of June 10th 1824.

A SUMMARY OF POSITIONS.

Messrs. Editors: I hold that, at mid-summer, the sun is $23\frac{1}{2}$ degrees above the horizon, at the 90th degree, and, consequently, then shines far into the concavity of the opening, independent of refraction; that the South verge is 4000 miles in diameter; that it lies North of Patagonia running there through a chain of active volcanoes, thence near the Cape of Good Hope, being nearest the Equator a little East of the meridian of Madagascar, thence to the northern boundary of Van Dieman's Land, and thence between the two islands of New Zealand; and that the North verge is about 125 or 2600 miles in diameter; that it runs through Mount Hecla, crossing Greenland near Cape Farewell, thence through Hudson's Bay, crossing the Northwest coast between lat. 52 and 53 degrees North. (being nearest the Equator about the meridian of Cook's river.) thence trending gradually more North along the extinguished volcanoes of the Fox Islands, and through the volcanoes of Kamschatka, to about latitude 68 degrees, in Lapland or Norway.

I also hold, that the magnetic Equator is higher North in Asia than it is South in the Pacific, as it should be to correspond in relation to distance, with both verges, the South being the largest; that our natural climates are parallel to the verges; that the high side of the verge is the coldest; that the extremity of the verge, in any given meridian, is the coldest point in the winter, and that the coldest region in summer is close under the umbrage of the verge; that in the concave polar regions, electricity, or latent fluid heat, probably so pervades all living bodies, in winter, as to supersede the necessity of much atmospheric heat. [This may be owing, in some way, to the concave surface being surcharged with electricity at the expense of the convex and *vice versa*, so that when a winter is excessively cold on the one side, it is mild in the same ratio on the other.] And, probably, in the polar concave regions, electricity in winter is generally redundant, and in summer *vice versa*; that the most direct course to the midway concave region is, to keep the course the needle points, throughout, as far as it will traverse; that the apparent verge lies all along where the needle settles at right angles with the meri-

dians; that Capt. Parry, when his needle pointed South, would have advanced toward the midway inner region, by pursuing the course his needle pointed; that the Northern sea, which produces the greatest flood of water toward the South, is most likely to afford a route by water to the inner tropical region, particularly in winter, when a thermometer, immersed in the sea, would indicate, by its temperature, a track to the mouth of some large river, heading in the tropics; that the inner tropical countries may be explored with great ease and safety, by way of the South verge, at any season, and at almost any meridian or point, by common ships and by unlettered seamen, provided they have faith in the winding meridians and other lines I describe, but, without such faith, the inner meridians will gradually turn them back, and finally foil them in their efforts to advance; that the steam ship which now plies between New York and Liverpool, in 17 days, could probably reach Spitsbergen, under England, in eight days more, and the temperate inner regions in time to return before the close of the present session of Congress, provided it could leave New York by the last of January, and it were necessary to return so soon.

And I hold, that the large trees found beyond the region of sterility, at Cape Horn, Cook's River, and the Caspian Lake, are matured by a comparatively temperate climate, within the concavity; that the line where the timber of Norway and Cape Farewell terminate, marks the boundary of the verge, as does the line where agriculture ceases, and where little vegetation, except moss, is produced, about which line the tides rise high, and decline on either hand, the course of the flood tide being reversed within. The line of the verge is also indicated by a difference in various phenomena beyond it, such as there being but little rain on it, and more and more beyond, and the land beyond being more cut into deep and narrow channels of water, and the atmosphere often charged with sudden fogs, and the sun appearing less bright, particularly in one direction, and the sea and sky more dark, the sea-shores more deep, bold, and high, the winters gradually more temperate, and the sea-water less salt, the barometer rather suddenly less fluctuating, the Aurora Borealis more South, ground swells in the sea gradually more frequent, whales and seals to be found, but mackerel and herring rare, contrary and diversified currents more common, winds more changeable and changed in character, and rendered less efficient for sailing, thunder and lightning less frequent but more violent, the powers of vision extended to an extraordinary distance, at times seeing farthest on a parallel line with the verge, atmospheric refraction more frequent, excessive, and extraordinary, sometimes appearing as if one were on a concave surface, sometimes a convex, and at other times on a level plane, the climate healthier and the temperature more even, the variation of the meridian from the needle gradually more excessive and the magnetic force weaker, the land always coldest below, springs of water more rare, the nights less dark, the appetite and vigor of the voyagers increased, and the comparative difference between the heat of the day and night less.

I likewise hold, that certain migrating fish, such as mackerel, herring, &c. are forced up from the mid-plane-space, at or near the verge, in the neighborhood of Iceland, and that the tide is raised by water forced out from the mid-plane-space; that the nearer the verge, the more forceful is it expelled, as the Maalstrom affords an evidence; that the lower surface of this space affords fresher water than the other; that it is in a considerable degree probable, that the cake ice, drifted trees, &c. &c. which bear against the North shore of Iceland in the spring season, are expelled, like those herring, &c. from the lower surface of the mid plane-space.

The line of the verge is probably often indicated at sea by a disagreement between the log and celestial observation, when crossing it; and the clock and sun must, I think, necessarily disagree, more or less, at the same time. On land, the line of the verge, it appears, is seldom crossed either way, by migrating quadrupeds, or water fowl.

For a like application of these particulars, see the Map of the Verge, which I published in September, 1822.

Respectfully, &c.

JNO. CLEVES SYMMES.

Hamilton, Butler co. Ohio, Dec. 19, 1823.

P. S. I would be happy if those persons who last year signed petitions for an exploring expedition to be sent to the polar regions, would once more sign similar petitions, and forward them on to Congress this session.

The importance of my views justify my plunging onward, without regard to pecuniary inconvenience on one hand; but, on the other, the value of my developments face me on such ground, that I would, I humbly conceive, be justifiable in taking a stand, and rather wait to be courted, than to seek the patronage of the community, as I do.

Where riches, patriotism, philanthropy, leisure, and a love of truth, are united, I might hope to find a patron of the theory who could and would enable me to develop it with facility and ease, at Washington, and other Eastern cities.

J. C. S.

HAMILTON, Dec. 23d, 1823.

Gentlemen: By error, it is stated in the summary of positions forwarded yesterday, that the diameter of the S. verge is 4,000 miles, and that the N. is, say 2,600 miles; whereas, it should read, that the diameter of the N. verge is about 4,000 miles, and that of the S. 6,000. Strict calculation, however, makes the N. about 4,150, and the S. 6,350. You will please, therefore, if not too late, to make the necessary correction either in even thousands, or include the odd hundreds, as may best suit your convenience. If this reaches you too late for an insertion of its substance, with the preceding communication, you will please add the note, or correct the error by an errata, in your own words; if in time, you will have the goodness barely to alter the figures as above proposed. Your very humble servant,

JNO. CLEVES SYMMES.

From *National Intelligencer* of September 18th 1824- 128

SYMMES' THEORY.

INQUIRIES RELATIVE TO THE NATURAL HISTORY OF THE EARTH.

As those Magellanic clouds of the Southern hemisphere, which are seen from the South Atlantic and from the southeast parts of the Pacific Ocean (reverse from New Holland and New Zealand) are not visible from the east part of the Indian Ocean; and as they, without revolving, correspond both in relative position and in relative proportion, and also in their respective general outlines, with the south half, or three fourths, of New Zealand, a section of the S. S. E. part of New Holland, and the whole of Van Dieman's Land,* (the strongly marked gulf or indentation in the coast of the most southwardly, or southeastwardly, part of New Holland, being doubtless visible on the underside of that one of the two larger clouds, which should, according to the suggestion here maintained, be constituted by a small portion of N. Holland,)—does it not therefore follow, that, like Scoresby's ship, which, in Baffin's bay, was seen, by means of great refraction, apparently in the heavens, that these lands are, in a somewhat similar manner, seen as if they were in the sky? It is doubtless out of our visual power to discover that bent rays of vision are crooked; hence, we necessarily suppose an object, seen by means of bent rays, to be situated where in reality it is not.

As Symmes' map of the northern verge, published in Sept. 1822, places North America on one side of the sloped verge, or sloped polar opening,† and Asia on the opposite side slope, and as his marked meridians run, more or less directly, along up the edge of either slope of the apparent verge, towards a position on, or rather under, the highest side of the opening, which highest side he marks to the northward of Europe, and which position, being the 90th degree, he marks on the apparent verge; it follows, if his conclusions are founded in truth, that the most direct course outwards, from the innermost region of the concave, towards and over the north verge, must be more or less northeastwardly, by the sun, in America, and northwestwardly in Asia, will it not therefore also follow, that the PERPETUAL CURRENTS which Parry and Franklin described in the North Sea of America, as pre-

vailing north-eastwardly, and the similar currents mentioned by Captain Cochrane, and certain Russian explorers, as prevailing in the North Sea of Asia, north-westwardly, both progress outwards, in the most direct manner practicable, towards, if not over the verge; or, in other words, outwards and downwards towards our temperate regions? Capt. Cochrane, in a recent publication, has stated that he supposes *the northwest currents of Asia to supply the northeast currents of America*; but, although Capt. Cochrane quotes Capt. Franklin relative to the lodgment of peculiar driftwood, the product of warmer climates, yet he at the same time overlooks a fact stated by Franklin, which forbids his theory, which fact is, that the water of the North Sea, is fresher than any other seas. Now, such could not be the case if those seas were supplied by a current from the Pacific, poured through Behring's strait; and, I may here add, that Behring's strait is comparatively both narrow and shallow, and that some Russian Journalists contend that it is only the mouth of a deep bay, and, as well as I remember, Cook has not treated of any notable current there, whilst Captain Parry treats of *perpetual currents*, which are very general beyond Baffin's bay. Parry found that the current in one particular strait run at the rate of four miles an hour.†

As the northeast winds of Siberia and the northwest winds of Hudson's and Baffin's bays are, I learn, similar in their general character, and as ground swells prevail most from the northeast in the north seas of Asia and Europe, and most from the northwest in Baffin's and Hudson's bays; and, as the rein deer of Siberia proceed northeastwardly in October, and those of Hudson's bay, at the same season, proceed northwestwardly, does it not follow, that the previous suggestion, offered in the last paragraph, is well-founded, seeing that it is propped by such corroborating facts and circumstances as are enumerated in this paragraph?

The direction of the magnetic needle, and of the aurora borealis, generally seem to afford further corroboration.

Are there not hundreds of facts, that can be cited in a similar manner, in favor of the new system? The writer of these remarks says there are, and that he will cite them particularly and publicly, as soon as he has time, patronage, or means, sufficient to enable him to do so.

The many recently published English accounts of new discoveries in the north, abound in facts more or less applicable as proofs.

A remarkable fact, which was but lately applied as a proof the theory, is, that the relative difference in the climates, on any given meridian traced throughout the two Americas, from one known extreme to the opposite, accords with the new system. For, such meridian, (for example, the meridian of Boston,) crossing over the south verge at about 40 or 43° of south lat. and over the north verge at about 57 or 60° of north lat. as laid down in the new system, affords the following phenomena, viz: counting from the equator either way, the first 40 or 43° appear to be most temperate to the south, and the next 15 or 20 degrees to be least cold or unproductive to the north, and beyond the 60 th degree, on either hand, as far as known, on the meridian in question, it appears to be again least cold or icy to the south.

And it also appears, that ranges of equal climates decline, counting from Europe across Asia, nearly east by south, and from Europe across America, nearly west by south; this affords an inference that the verge is, as marked in the new system, every where nearly equally distant from such natural parallels of climate, especially, as the magnetic equator appears to be every where parallel to the climates in question. These severally described climates, it must be admitted, corroborate the new theory.

[*To be continued.*]

* Van Diemen's land, being, according to the new system, on the concave surface of the sphere, and New Holland on the convex, the rays from the latter are consequently most bent, when seen from the reverse or opposite side of the sphere, hence make that cloud apparently farther from the former than the relative distance on the map would seem to indicate it to be. We only see these magellanic clouds at night, when the sun is shining on the islands in question: and from hence is their relative light deducible. Their color is that of distant hazy mountains, on which the sun is shining. In one sea they appear to the right of due South—and in another to the left; but, they are perpetually fixed, at a given height, and on a given course, at any, and every place where they are visible, and the stars and

the heavens, generally, in their diurnal revolution, sweep by them. As a voyager proceeds to the east or west they become more or less to the right or left of the meridian, and more or less high; and as one proceeds to the south, they appear higher and higher; and finally become north of the Zenith, when seen by an observer situated south of the straits of Magellan, which straits are in latitude 52 degrees south.

• † Take a hollow terrestrial globe, such as are used in the colleges, and insert a saw at north latitude 68 degrees, in Lapland, and saw obliquely through in a direction to come out at north latitude 50 or 52 degrees in the Pacific, and the aperture thus produced, will show the general dimensions and slope of the north polar opening as marked in the new system.

‡ It has long been known that tropical productions, including timber and vegetable seeds, drift on to the north shores of the arctic regions. Now, as it is proved herein, I conceive that *perpetual currents*, fed by waters only moderately salt, pour down from all the northern seas: it follows, that those tropical productions must drift from a temperate climate, existing within the concave.

§ The winters of England at about lat. 53° N. are said to be less severe than the winters of New-York at about lat. 43° ; and grain produces well at lat. 66° in Norway, whilst at lat. 55, in Kamstchatka, it will not produce.

From Western Spy & Literary Cadet of April 28th 1821.

**To the President of the Historical
Society of New York.**

SIR,

Those who have undertaken to write the History of the late war between G. Britain and the United States, having done great injustice to the officers of the first regiment of infantry, I am induced to appeal to you to correct the numerous errors into which they have fallen, by copying into their works the misrepresentations and misstatements of the official reports, in which the conduct of that regiment and its officers is detailed.

In the accounts which they give of the sortie from Fort Erie, on the 17th of September, 1814, in enumerating the officers who distinguished themselves on that occasion, Lieutenant Shaw's name is printed *Shore*, Lieutenant Brunot's *Bridnot*, and my own *Simms*. As I was the senior officer of the first regiment in this action, and as Lieutenants Shaw and Brunot were under my command, I feel that I have failed in my duty in suffering these errors to remain so long uncorrected. But these misstatements are of trifling import, when compared with others, which have been made by the same authors in relation to the first regiment. I will call your attention to a few of these and shall expect from you an impartial investigation of the statements which I shall make.

The official report, and the histories which have copied from it, state that, in the sortie above mentioned, lieutenant Frazier, Brigade Major of General Porter's corps, was wounded in the act of *spiking* a cannon in battery number 2; and upon this report he was actually brevetted. The only cannon in this battery was in fact spiked by myself. The winter after the campaign of 1814, I met with lieutenant Frazier in the city of New York, and he then stated to me that he was not in battery No. 2 on the day of the sortie, but was wounded near it. Subsequent to this conversation, I discovered, from a succeeding register, that the date of his brevet was altered to another day. But still the honor of the transaction, if any there was, has never been given to the person to whom it was due.

In the account which is given of the battle of Bridgewater, fought on the 25th July, 1814, it is stated that the first regiment, "after a discharge or two gave way, and retreated some distance before it could be rallied, though it is believed that the officers exerted themselves to shorten that distance." An impression has been made on the public mind by this and other similar misstatements, that the regiment deserted the post which had been assigned to it by General Brown and failed in discharging the duties required of it by that officer. To remove this erroneous impression, I will briefly state the facts attending the entrance of the first regiment into the field of action and describe its conduct after it became engaged. On the day of the battle the regiment landed in Canada after a long and fatiguing march from the banks of the Missouri. It had not joined the army previous to the commencement of the battle, but was about two miles in the rear when the firing commenced. Without waiting for, or receiving any orders from General Brown, it was immediately put in motion by Lieutenant Col. Nicholas, and marched with all possible expedition, to what we supposed to be the scene of contest. When we arrived at the American camps, we found that General Ripley had advanced with his brigade, and without halting we continued to press forward. It was twilight when we reached the field, and we advanced to within a short distance of the enemy's battery before we met with any general officer, or authorized aid, to instruct us how we should join in the action. Ignorant of the situation of either of the armies, unapprized of the position of Ripley's brigade to which we were attached, and with which it was necessary to co-operate; discovering that we were directly in front of the batteries which began to play very briskly upon us, at not more than two hundred yards distance, a short retrograde movement was made by the regiment, in obedience to a *distinct order* from Lieut. Col. Nicholas. After a full examination of all the facts connected with this order, it was pronounced by a court martial held upon Col.

Nicholas to be perfectly proper and warrantable. The attention of the enemy was entirely directed to the first regiment, at the time when Col. Miller made his successful attack on their battery, and captured it by a *covert charge*. I am warranted in stating that Col. Miller did not receive a single fire from the cannon of the enemy, and I believe it to be a fact, that his attack was so sudden and unexpected, that they did not use their small arms until they were driven from their battery, and forced to retreat.

After the capture of the cannon the first regiment was enabled to make its situation known to Gen. Ripley and was ordered to assume a position on the left of Miller's regiment. This order was promptly obeyed, and the position was maintained with unshrinking firmness until the close of the action. The efforts made by the British to recapture their cannon were gallant and persevering.— Three times at least did they charge with the bayonet, but their desperate courage did not serve to intimidate our soldiers, who seemed resolved to perish to a man rather than retreat. During this hot contest the first regiment discharged seventy rounds of well directed ball and buck-shot cartridge, at close distance, and must have annoyed the enemy very severely.

For my part, I would be satisfied with the credit which the enemy would award to the first regiment when they learn that it constituted the left of the American line, from the taking of their cannon until the close of the battle.

Most of the above facts I have sworn to in a court of martial law held at Nashville, and all of them I shall be ever ready to maintain before any competent tribunal.

JOHN CLEVES SYMMES,

Formerly Captain 1st Reg't. U. S. Inf'try.

P. S. The Editors of the National Intelligencer, and Editor of the New-York American, are requested to republish the preceding historical note.

J. C. S.

From Western Spy of Cincinnati of April 1st 1820.

COMMUNICATED.

On Friday Evening week, Capt. John Cleves Symmes, of this city, delivered, before a very numerous & most respectable audience of both the sexes, a Lecture upon his novel Theory of the Earth. It was certainly, to say the least of it, a most ingenious production; and which it is believed, was well received—if we may judge from the respectful silence that pervaded the room. Many of his friends, I understand, have been trying to persuade the captain to continue his idea on the subject in a short course of lectures—and for which, it is believed, he has matter yet remaining, undelivered, for the purpose. I am one among the many, that wish the lecture to be resumed. The subject itself, is too closely connected with science not to merit public favour.

From Western Spy of Cincinnati of April 22^d 1820.

SYMME'S THEORY.

A CARD.

Captain Symmes being about to publish his LECTURE, lately delivered in the Lecture room of the Western Museum, on his theory of the Earth, or new planetary system, (in which most of his principles are methodically arranged in one comprehensive view,) and having obtained subscribers for upwards of FIVE HUNDRED copies in a pamphlet form, finds the encouragement such as to induce him to set about preparing a large APPENDIX of notes, which will be supplied inclusively, to such subscribers as may wish to obtain it. This will enhance the price of such enlarged copies, probably to 25 cents, but not to exceed that sum.

To such subscribers as do not wish to have the Appendix, the Lecture will be furnished on the terms of those already subscribed for, viz: at the prime cost of printing and paper, which is in nowise to exceed 8 1-3 cents.

Subscription papers with ruled columns for the copies, either with or without the Appendix, are left at each of the Reading Rooms, each of the Printing Offices, and most of the public houses in the city.

On these subscription papers, former subscribers are invited to commute the whole or a part of their previous subscriptions, for one or more of those copies which are to be enlarged with an appendix, where they prefer so to do. The publication of the Lecture will be deferred a little longer than at first intended, in order to afford time for the subscription papers on the enlarged plan to obtain circulation and signatures.

Those persons who feel disposed to aid in giving the Theory an extensive circulation by the distribution of a multitude of impressions, will of course subscribe for the lesser copies, containing the Lecture, merely—with a few marginal notes: and such as wish to possess the author's ideas, and authorities, in a more permanent and ample form, will put down their names for the larger pamphlets,—which instead of being placed like the others at the original cost, will be offered at about the usual price of publications of a similar size.

Those Printers exchanging papers with the Spy and such other printers as shall be furnished with a copy of this advertisement, who will obtain subscribers according to the prices and terms herein stated, and write to the author on the subject, shall receive by the mail, the number they may obtain subscribers for or as many as they may wish sent as a venture, so far as the impression goes, (and the type will probably be kept in form some time,) for which they can make such return by mail, as the proceeds may justify, after reserving all expences, including their own and the booksellers per centage, and any editor or bookseller in any other city or town, in the U. States or Canada, not included in this list, who will interest themselves in the same way, shall be supplied in like manner.

Should there be no nett proceeds to return, yet the main object of the author will be obtained, which is, a wide circulation of his system in a way, somewhat more permanent than newspapers commonly afford. Should the author lose at one place, he may hope to gain enough at another, to 'make both ends meet.'

Cincinnati, April 22d, 1820.

NOTE. The length of the Lecture is such, as to have occupied about one hour in the delivery, independent of the Notes.

Should any Printers please to give this Card an insertion, they may thereby contribute (to say the least of it) to the encouragement of scientific enquiry or research.

From Western Spy & Literary Oracle of May. 4th 1820.

SYMMES'S THEORY.

PRINTERS or Booksellers, who may be late in sending for copies of Capt. Symmes's Lecture, advertised in the Spy of the 22d inst.—or those who may wish a second supply, need not hesitate in sending at any time, as new editions will go to press, should the demand justify it.

Those persons who exert themselves in obtaining copies, will be presented with one *gratis*; not as a *compensation*, for it is hoped, that all who think the position in the least degree probable, or believe that it is even worth while to inquire how the earth is constituted, will be disposed to give their aid in furthering the development of such knowledge, without a hope of any other reward than that of soon or late realizing something new.

The following is a sketch of the arrangement of proofs in the Lecture.

1st. Mathematical proof, deduced from geometrical positions.

2d. Proof by celestial analogy, deduced from Saturn and other planetary bodies.

3d. Terrestrial facts and phenomena; such as the migration of fishes, quadrupeds and fowls, to and from the polar regions—southward in the spring and northward in autumn. Also such as the variation of the needle, the peculiarity of the winds and seasons high north, and several other facts that tend to corroborate the idea which he maintains, viz. That this our sphere (containing others) is hollow and widely open at the poles, not difficult of access by water, and amply inhabited within.

The author, on closing his proofs, in the Lecture, expresses a wish, that the United States would ere long be actuated by that spirit of enterprise for examining the unexplored parts of the earth, which now pervades the Russian and British nations.

Should any Printers please to give this Card an insertion, they may thereby contribute (to say the least of it) to the encouragement of scientific enquiry or research.

Cincinnati, April 29th, 1820.

NOTE.—Those writing for copies are desired to send their letters without sealing them, that they may be known from anonymous ones, which are frequently sent to the author.

Published in Western spy of January 4th 1821.

SYMMES' PAMPHLET.

As the subscriptions for the Lecture which I proposed to publish (with an appendix) have been mostly obtained in the City of Cincinnati, and were procured either by my own personal application, or by the application of a messenger sent by me,—I cannot tell certainly, whether they were given, merely to encourage me, as a former soldier of the district, to whom so small a request could not well be refused; or through a real desire to read the lecture, and obtain a more particular knowledge of my views on the subject of open poles and concentric spheres. At any rate, as it has been publicly delivered, in the hall of the Western Museum, to a crowded audience, and as many of the arguments it contains, have long been exhibited both in the Reading Room and Gazettes of the city, I trust that my friends will readily excuse the further delay of its appearance. As to the encouragement received from elsewhere throughout the United States, it has been too little to produce excitement; having received little or no countenance, from any of our governments, or from any of the learned societies or schools, or any of their members, with a very few exceptions, (some of which I design to name on some other day) and having received very little respectful notice from either newspaper editors or other journalists—a few of the more liberal ones excepted. Under such circumstances, I expect my friends will rather commend than blame the delay already incurred; as well as the further and indefinite postponement of the publication. I, at all events, defer it, until I perceive a more earnest desire for it than now appears to exist, or until there is a prospect of the pamphlet paying tolerably promptly for the expense and trouble of printing and selling it, or, at least, until I can find disposable time and funds, (which I hope may ere very long be the case,) to publish it on a comprehensive scale, suitable for a wide and permanent circulation; until when, I shall probably continue to publish occasional essays on the subject in the newspapers.

JNO. CLEVES SYMMES.

Cincinnati Reading Room, Dec. 16, 1820.

NOTE.—Since writing the above notice I have received an invitation through a committee from the Philomathian Society of Newport, to deliver before them, and the citizens generally, a Lecture: with which invitation I purpose to comply (on a day yet to be named) sometime in the ensuing month. J. C. S.

Dec. 20, 1820.

From Western Spy & Literary Oracle of March 31st 1821.

John Cleves Symmes,

WILL deliver by public notice, two or more **LECTURES** on his views of the formation of the Earth, and other Planets, at Mr. Wing's New and Commodious School House, on Sixth street, to commence some time in the month of April, or so soon as a sufficient number of tickets are disposed of, to justify the undertaking. In the event of sufficient patronage not being obtained, the money taken will be returned.

Tickets for the course (price 50 cents) may be had at the Cincinnati Hotel and at the several Bookstores of the City.

March, 1821.

The New Theory.

THE Author of the New Planetary Theory, will lecture in the Hotel Reading-Room, at the corner of Broadway and Front streets, to-day and to-morrow, commencing at the hour of 11 o'clock, A. M. and again at early candle-lighting.

The lecture (of one hour) which will commence at 11 o'clock this morning, will be repeated with but little variation, at candle-light this evening. And to-morrow, a new lecture will be delivered, with like repetition.

This arrangement will enable persons to choose that time of day which may best suit their convenience.

Commodious seats arranged along the left hand side of the room, will be provided for the ladies who may favor the lecture with a hearing.

The author is happy in being enabled to say, that his theory this year, appears to be gaining ground, and, is treated with a greater share of public favor, than at any former period. Those who wish to see his proofs and arguments illustrated by models, will do well to attend now; for it seems highly probable that the general progress of his principles will soon induce him to proceed to the Atlantic states for the purpose of illustrating his views to his more inquisitive fellow countrymen of the East.

The recollection, that this day is the anniversary of the Battle of Bridgewater, [where the author had the honor of heading a company, in which his loss was more than the one fourth] will not render the patriot, the less favorably disposed to spare the price of an hour's attention to a subject which may some day prove as honorable to the *Enterprize* of our country as the battle was to her *Arms*.

Tickets (at 25 cents) may be had at the Bar of the Hotel, and at the door of the Reading-Room.

Cincinnati, July 25, 1823.

*From National
Republican of
July 25th 1823.*

From a Cincinnati News Paper

A Branch and Flower

OF the EXOTIC, now growing spontaneously in Newport, with one of the peculiar clay nests of an undescribed western bird,—will, to-morrow evening (Wednesday) be exhibited in the WESTERN MUSEUM, where the undersigned will expatiate on the nature, and probable origin, of the plant and birds. He will also, offer some brief explanations of his NEW THEORY OF THE EARTH, and exemplify them by the aid of diagrams and models.

The monies arising from the sale of Museum Tickets, on this occasion, will, by the liberal permission of Mr. Dorfeuille, be paid over to the undersigned, whose principal object, in the proposed exhibition, is to raise sufficient funds to enable him to enclose the plant (with glass cases, &c.) so as to secure it in a proper manner from the approaching cold weather, which, without such protection, seems likely to prevent it from arriving at maturity.

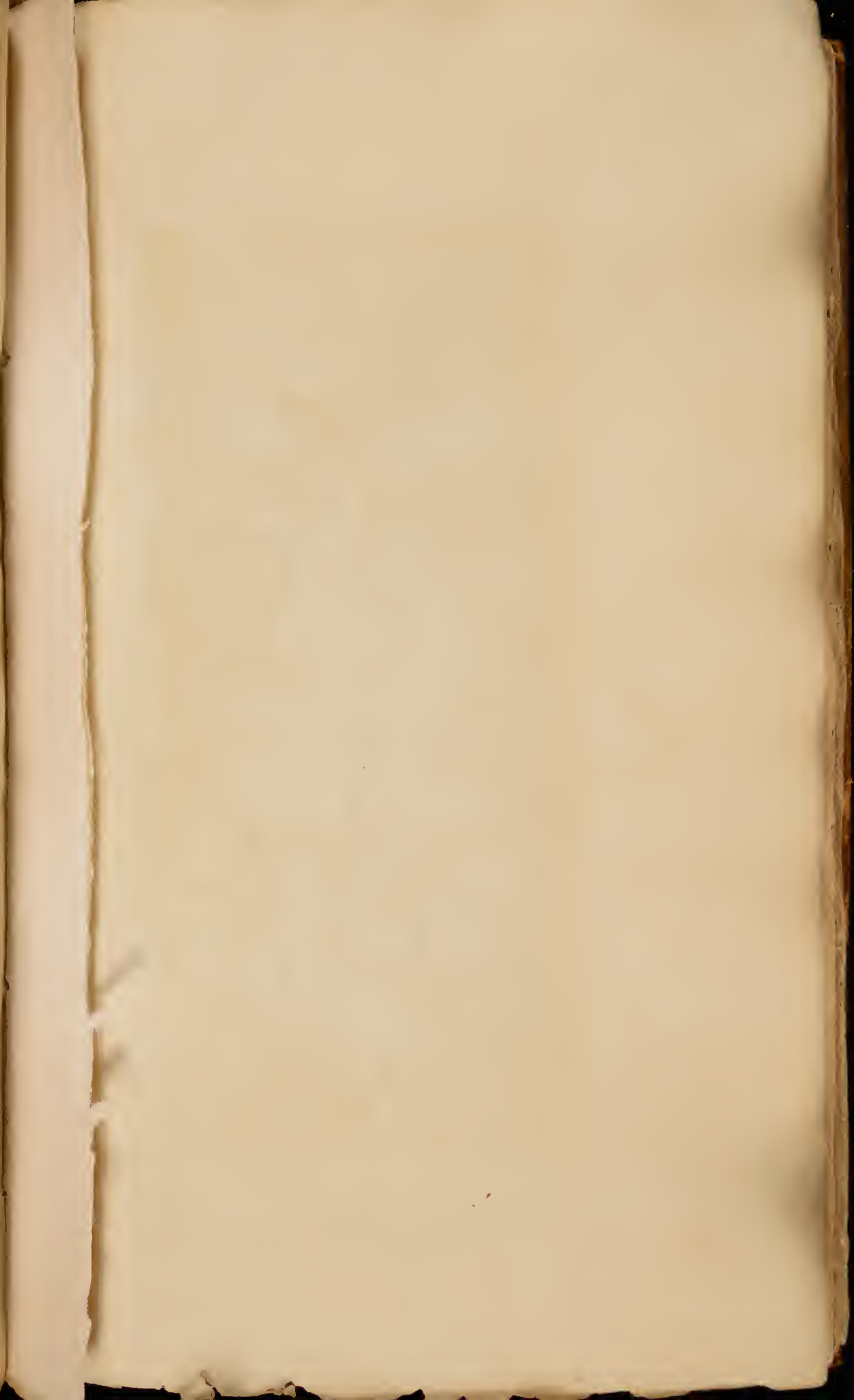
The door of the Museum will be open at 7 o'clock, and the remarks, &c. will commence at 8 o'clock.

To-morrow evening being set apart for the special purpose herein particularized, it is hoped that the subscribers to the Museum will not avail themselves of the privilege of attending without purchasing a Ticket; the cost of which will be no more than they would pay for ferriage on crossing the river (as many have done) to see the plant.

Besides an agreeable and edifying lounge through the Museum, and the sight of an extraordinary and curious swallow's nest, and a branch of a grand and peculiar plant, with its large, beautiful and fragrant flower—(including the remarks to be made on the New Theory)—there exists a sufficient inducement for general attendance in the proposed preservation of the tender, (and probably tropical) STRANGER-PLANT from the frost, in order that it may, by reaching maturity, be propagated from the seed, as an ornamental flower in our parterres.

JOHN CLEVES SYMMES.

Cincinnati, Sept. 30, 1823.



in the Western Spy, Cincinnati of March 13th 1819.

Sir Richard Phillips's Essays on the Proximate Mechanical Cause of the General Phenomena of the Universe, were announced to the Class of Natural History by the University Professor, a few days ago, immediately on their receipt from the distinguished and ingenious author, now residing at Holloway, near London. They contain a new and bold theory of matter, space and motion. The NEWTONIAN doctrine of *gravitation, projectile force*, and *void space* are utterly denied; and, as Sir Robert believes, proved incorrect and delusive. The fabric of modern philosophy is assailed with alarming power.—Considering SPACE the *stage*, MATTER the *subject*, and MOTION the *agent*, producing all the phenomena of the material system, the author with full possession of his design, ventures to give a novel explanation of planetary gyrations, and of the other modes of material existence.—He rejects attraction and repulsion, as unphilosophical and unnecessary. But deriving motion from the sun, he traces it through the plenum (ethereal, luminous, gaseous) of space, to the most minute as well as the most bulky of natural bodies, and explains how much motion, impressed, becomes weight, approximation, rotation, and progression. He contends there is no occult principle of attraction or gravitation concerned in producing any part of the celestial appearances—but the whole is the necessary result of the known laws of motion; and it is suggested as a theological deduction, that motion, as a great secondary cause, may be regarded in its uniform operation, from the great to the small, as the hand of OMNIPOTENCE; while as a principle of causation, it necessarily involves the attribute of OMNIPRESENCE. It is to be hoped this mathematical work will be reprinted here for general information.

N. Y. *Columbian.*

From Western Spy, Cincinnati of May 29th 1819.

Origin of Rivers.

A question has long existed among philosophers, and has never been settled by universal consent, whether the rivers depend solely for their supply upon the water which descends from the atmosphere, or whether there is a kind of circulation of water within the earth like that of blood in the animal economy, or that of winds in the atmosphere, by means of which perennial springs are constantly supplied, by some mechanical process in nature, from "the fountains of the great deep." Riccio-lus affirms upon calculation, that the Volga, or the St. Lawrence alone discharges annually a greater quantity of water than falls in rain, snow, and dew, upon the whole surface of the globe. These and other known rivers are said, upon a very moderate calculation, to discharge more than five hundred times as much water into the sea as falls in rains, &c. It would seem, therefore, that there must exist subterraneous communications between the sea and the sources of fountains, rivers, and the larger springs by which these are supplied; and this opinion is corroborated by the known existence of charybdes which swallow the sea for these purposes; and when these happen to be stopped, the largest rivers have been said to be dried up, and to have wholly ceased to run for a considerable time. It is stated in Rees's Cyclopaedia, that there are accounts in history of this having happened to the Thames, the Medway, and the Trent in England; the Elve, the Motala, and Gulspang, in Sweden, and other rivers in other countries. On the contrary, if these charybdes happened to be too open, fresh water springs depending upon them became salt. Pliny relates that this once happened in Caria, near Neptune's Temple. Various other instances have been stated by historians, ancient and modern.

From the Baltimore Morning Chronicle of July 20th 1819.

FROM THE GEORGIAN.

From a gentleman in London.—July 1, 1819.

ORACULAR SIR.—The ship *Iffyginnny* has returned from her expedition to the North Pole and I hasten to communicate to you the result of her polarification. She reached the 89th degree of latitude, after crossing a smooth sea, entirely free from ice, and abounding with the fish of the Equatorial seas, where the crew beheld a long line of coast covered with the orange, lime, fig, palmetto and other trees of the tropical regions.—The captain and crew landed in order to explore the woods as far as the earth's *axletree*, but had not travelled a mile before they met with a vast valley—they descended it and found by a pocket compass that they were tending to a southerly direction every step! in fact that the earth is hollow at the poles as you had anticipated.—As they proceeded into the earth it grew brighter instead of darker, and they at length hove in sight of a complete solar-system, revolving in the hollow of the earth! The captain took the altitude of the sun and found it to be three thousand five hundred miles—now as the earth's diameter is not quite 8000 miles it proves that it is a mere shell, thinner than that of a goose egg compared with its cavity. Having proceeded into the earth until they came nearly under the arctic circle they found a large city, inhabited by a people considerably whiter than snow—Our interpreter found their language to be *Esquimaux* and learned many things concerning them which will be published hereafter. The king has sent his compliments to you and invites you to his kingdom, with promises the most magnificent. These *intraglobites* are about 5 feet high and well formed, but all their features are upside down—they walk on their heads and go backwards instead of forwards. Their brains are in their feet, and they talk to one another back to back. The streams run up hill and consist of *methglin*; they build their houses from the roof down to the foundation. The fishes swim with their bellies uppermost and their tails foremost. In short these

infernals are the antipodes of us supernals in every respect. I hope you will hasten to join the new expedition which is now fitting out, and remain your friend, &c.

PHANTASMAGORIA.

COMMUNICATION.

Mr. Editor---As so many plans to reform the currency and improve the banking system of this *upper* world, are now offered to the public, would it not be advisable for Mr. Crawford to delay making his report until Capt. Symmes of Ohio has explored the centre of the earth and investigated the currency and banking system of the good folks in that quarter?

NORTH POLE.

From Western Spy of August 21st 1819.

CAPT. SYMMES'S HYPOTHESIS.

From the Village Record.

We last week introduced to our readers, Mr. Heckewelder's account of the Indian history, manners, &c. Some extracts were made, which we doubt not were entertaining. There are a few more remarks and extracts which we feel inclined to make, being assured they will be acceptable.

Indian Mythology.

On this subject I beg leave to present an extract from the manuscript notes of the late Rev. Christopher Pyrlæus, whom I am always fond of quoting with respect, as he was a man of great truth and well acquainted with the Six Nations and their idioms. The account that he here gives of the traditions of that people concerning their original existence, was taken down by him in January 1743, from the mouth of a respectable mohawk chief named Sganarady, who resided on the Mohawk river.

The Extract.

"Tradition.—That they had dwelt in the earth were no sun did shine. That Ganawagahha (one of them) having accidentally found a hole to get out of the earth at, he went out, and that in walking about on the earth he found a deer, which he took back with him, and that both on account of the meat tasting so very good, and the favorable description he had given them of the country above and on the earth, their mother concluded it best for them all to come out; that accordingly they did so, and immediately set about planting corn, &c."

Is the reader acquainted with the opinion and projects of captain Symmes? He maintains that the earth is hollow—that there is an entrance into it at the north pole; and that it is inhabited. In the above extract we probably find the source from whence he has derived these strange notions, for he has resided many years in the vicinity of the Indians.

Without supposing that the Indian traditions will add much weight in the public mind, to the opinions entertained by our new philosopher; there is another fact which has lately come to light, which is well calculated to encourage Capt. Symmes to undertake an expedition for discovery, towards the North. We allude to the new people found by Capt. Ross, in the discovery ships the last summer, in latitude 76° ; the very interesting account of which we have recently seen published in the Record. These people pointed to the North, as the place of their residence, and had come down for the purpose of fishing; they did not believe that Capt. Ross came from the South, "because," said they, "it is a great mass of ice"—of course it follows that they must live in a country not a mass of ice, for they deem such an one uninhabitable—and that north of where they were found, the climate becomes milder and inhabitable; besides, it is worthy of remark that they mentioned their country as having a great deal of water; not ice. These facts, highly important certainly, shew that far north of the regions which we have heretofore deemed inhabitable, where we have considered winter robed in snows and crowned by storms, to reign in the awful despotism of desolation, the climate undergoes a favorable change, the cause of which it is not easy from known philosophical principles, to account for.

Capt. Symmes in one of his essays states, that north of any inhabited part of the country, it has been long observed that rein deer migrate; that after being a considerable time absent they return, sleek and fat; from which he infers, fairly too, that they must find a milder climate, fitted to raise food for them, and consequently, fitted for the habitation of man. The facts stated by Capt. Ross, confirm his conclusion, and render it a matter very desirable that the expedition projected by Capt. Symmes should be undertaken.

From Liberty Hall of October 1st 1819 -

ON THE NEW THEORY.

FROM THE LYNCHBURGH PRESS.

Messrs. Editors: I lately read a short essay in your paper addressed to Dr. Mitchill, of New York, respecting the formation of our earth. There is something so extremely absurd and atheistical in it, that I cannot help noticing it. If you think my remarks worth an insertion, you will oblige a subscriber by giving them one.

In the first place he says—"Taking it for granted, that this earth has been of a consistence that would take shape by motion, (and from what has been discovered, there are strong arguments in its favor) what would be its internal structure." If we believe the Mosaic account of the creation of the world, (and we have no other authentic account) we must believe, that the earth was then substantially the same that it now is; that the face of the earth underwent a very considerable change at the flood, we cannot doubt; and also, our atmosphere became much less favorable to the health of man, as appears from his life's being shortened one-fourth. This information we get from the Mosaic history. Information from any other quarter, on this subject, is mere conjecture and wild theory. It is agreed on all hands, that the ravages of the universal deluge, accounts satisfactorily for the different marine appearances, seen at a distance from the ocean. God created the world and every thing relative to it by his individual fiat, and has upheld, and will continue to uphold it, until its final dissolution. As to its assuming its present shape, by its motion: it is as absurd as the doctrine of the Cartesian Vortices.

With respect to a barrel churn, inasmuch as it is cylindrical, the remarks will not apply to a globe: and as to the grindstone retaining water on the top, it has no bearing on the subject. The earth has an equable motion, has no top nor bottom, but retains all bodies, equally well, on all sides. With respect to the aperture of thirty-six degrees, at the poles, it is per-

fect nonsense; navigators have gone to eighty-two and upwards, north latitude; now when the sun is in the tropics, very few rays would fall upon the aperture; but these few would not be reflected, to either pole. The angles of incidence and reflection are always equal on a plane surface—but, as the Aurora Borealis, happens generally to be brightest in November and February, when the sun would not perhaps cast a single ray into the cavity—this hypothesis falls to the ground. If this be the case, the inside or hollow of the earth cannot be any thing but darkness three-fourths of the year; and may be aptly compared to the brain that first suggested the idea of a cavity in its centre. In the outset, I said the opinions advanced in the essay, were atheistical; they are atheistical in this way: they account for the formation of our earth, as it is at present, by the revolution of it on its axis. Nothing, however, is said about the origin of this rotary motion. This implies that matter generated it; and this denies it creation—besides, if its motion gave its present shape, how can it continue so—would not the same motion continue to alter it to that of a cylinder. But enough of this, it is too absurd a thing to be pursued any farther. GALILEO.

From Liberty Bells of October 29th 1819.

FOR THE CINCINNATI GAZETTE.

Messrs. Editors,

By an essay entitled miscellany, in the last Western Spy, from the pen of that modern philosopher, Captain John Cleves Symmes, it appears that he has in reserve for the press, proofs and indications sufficient to establish *twenty-two* new positions or theories, in addition to those already promulgated. This information I apprehend will be rather appalling to the great mass of readers, inasmuch as mankind have no great fondness for being posed with subjects infinitely beyond their comprehension. If the captain is

so much afflicted with the *cacoethes scribendi* that he must compose, and that composition must be published, it does appear to me, Messrs. Editors, that he is in duty bound to select subjects not entirely beyond his own comprehension, and so far to conform to the established rules of philosophising, as to render himself intelligible if not conclusive.

That I may not be charged with acting unfairly towards the captain, for whose bravery and patriotism I have the highest regard, I shall here quote verbatim, *one* sentence from his last essay, which may be considered a fair specimen of his style, both as to manner and matter.

"7. That the northwestwardly winds are generally sucked, either from without the polar opening of one or other of the more narrow aerial spheres above us, or, out of some one or more of the poles of the inner spheres, or from midway between this and the next inner sphere, or occasionally from all; and that the northeastwardly winds are protruded from the concave surface of this sphere, (as are the S. E. monsoons, which prevail most in India; because the greater half of the south polar opening lies between the south axis and India, owing to the axis not being in the centre of the opening, and because the south pole is more open than the north) the S. W. wind is probably often sucked (by a partial vacuum northwards continuously within the sphere) from the concave of an aerial sphere above us, or from midrange between such concave and the earth's surface, as their natural rarification, great condensation, and consequent heat, indicate. Their hollow whistling sound indicates that they are sucked: owing to the rotation of the earth to the east, the action of the suction winds spirally round the earth towards the equator, from either pole, in a westwardly direction; the progress of which action may be almost as simultaneous from end to end, as that of the tides, or somewhat as water is moved in a trough, when one end is depressed. This action may pass over or through the trade winds of the equator."

Now if this be any thing but jargon doubly unintelligible, I shall not hesitate to acknowledge my ignorance of the philosophy of language and nature, and will cheerfully admit that the foregoing remarks justly recoil upon their author.

CLEON.

From the Western Spy of November 13th 1819.

The New Theory.

From the Kentucky Herald, Nov. 3.

TO THE EDITOR.

SIR—In your paper of the 20th ult. I have noticed a communication from Capt. SYMMES, in reply to some observations of mine on what he calls *his* Theory of the earth. As he had not time to answer my arguments, he confines himself to disproving the charge of borrowing from Halley, by protesting on his honor that he did not borrow from him or from any one else. I am bound to believe what is asserted in this manner; but to show Capt. Symmes that I did not make that charge on slight grounds, I shall give an extract from the life of Halley: "In 1692, Mr. Halley published a singular paper *on the cause of the change of the variation of the magnetic needle; with an Hypothesis of the structure of the internal parts of the earth.* In order to account for the change in the variation of the needle, he supposes *that there is an interior globe within the earth,* separated from the external sphere by a fluid medium; that they revolve about the same diurnal axis in about 24 hours; the outer sphere moving either a little faster or slower than the internal ball; that the magnetic pole, both of the external shell and included globe, are distant from the poles of rotation; and that the variation arises from the change in the relative distances of the external and internal poles, in consequence of the difference of their daily revolutions. The whole of this paper, though masked by the ingenuity of the author, is marked by an extravagance of speculation in which he was not accustomed to indulge. He even goes so far as to say, *that there may be several internal spheres, separated by atmospheres,* the concave side of each being made up of magnetic matter—and he considers it as by no means improbable, *that these different spheres may be inhabited by living beings.* The concave arches, says he, "may in several places shine with such a substance as invests the body of the sun, nor can we, without a boldness unbecoming a philosopher venture to assert the impossibility of peculiar luminaries below, of which we have no sort of idea."

It is very probable that after reading this account of Halley's Theory, there will be found some so incredulous as to demand more proof than a protest on honor, before they will believe that Symmes did not copy it. Some will also say, that if he was ignorant in 1818, that the idea was Kepler's or Halley's, he is not ignorant of the fact *now*; and that it is high time for him to quit talking of *Symmes's Theory*, or the, 'progress of the *Captain's Theory*,' and to say instead, Halley's or Kepler's Theory.

He refers me to his second and third *memoirs* until he is able to spare the time to answer my arguments. I would rather be spared the unprofitable labor of combatting unfounded assertions and extravagant guesses, which he is pleased to call *mathematical and ocular demonstrations*, when the cause can be brought to a much speedier issue. I have endeavored to prove by two short arguments, the *impossibility* of the earth being hollow to the extent he supposes. He calls these arguments *weak*. If so, they will be easily refuted; and I hope he will be able to spare *time* enough to do it. I promise to believe in his theory if he refutes either one of them. The first is a very plain, but I think a very *solid* argument. *The earth cannot be hollow, because it is so very heavy to its size.* The other, is that no hollow shell of the size of the earth can exist, because there is no adequate force to prevent it from *falling in*. Capt. Symmes may take his choice of them, or he may take both. He will observe that I use plain terms, because I wish to be understood by all. D. P.

NOTE.—The editor of the *Aurora*, after publishing mine of the 1st Sept. says in a note, that Symmes is mad. Mr. Duane must be mistaken, for I recollect to have seen a certificate of *sanity*, signed by some very respectable people in St. Louis, very properly accompanying the Captain's first circular.

[The following article, though intended to reply to the first strictures of D. P. replies also to the preceding. D. P. it is hoped, will abate somewhat of his asperity, if he thinks proper to answer this writer.]

SYMMES'S THEORY OF THE EARTH.

From the Petersburg Intelligencer.

A writer in the Kentucky Herald, under the signature of "D. P." says, it may be shown by the theory of gravitation, that no hollow globe of the magnitude of the earth can exist. Suppose such a shell of fluid matter to be created, and put into rotary motion, the same as that of our earth, and subject also to the laws of gravitation—it could not retain that shape for a moment—it would fall in from all points, and soon coalesce in a solid spheroid.

Although we are not believers in the theory of Capt. Symmes, yet we have the best authority to show, not only that the writer in the Kentucky Herald is mistaken, but that the theory of Capt. Symmes is plausible, and agreeable to the established laws of gravitation. The celebrated M'Laurin, in the fourteenth chapter of his second volume of Fluxions, investigates at considerable length the theory of Capt. Symmes, then known as the ingenious theory of Dr. Halley; and he concludes the result of his investigation in the following words: "And hence there seems to be some foundation for proposing it as a query, whether the internal constitution of the parts of the earth above mentioned, that was proposed by Dr. Halley, will not be found to account, in a probable manner, for the increase of gravitation; and at the same time of the degrees of the meridian from the equator to the poles; as these have been determined by the best observations hitherto."

He also adds, "When more degrees shall be measured accurately on the meridian, and the increase of gravitation from the equator towards the poles determined by a series of many exact observations, the various hypothesis that may be imagined concerning the internal constitution of the earth, may be examined with more certainty."

Mr. Euler was also a supporter of the theory of Dr. Halley, supposing the earth to be hollow, with a nucleus included: he only differed as to the nature of this nucleus. Dr. Halley supposed that the nucleus contained within the earth was composed of the same sort of matter as the earth itself; but Mr. Euler believed that the nucleus was a luminous body, formed for the purpose of maintaining the internal heat of the globe, and giving light to the hollow parts of the earth, which he supposes well inhabited, equally with the exterior surface. He also fancied that this solar nucleus in the hollow of the earth, had no rotary motion, but that the earth revolved round it.

The theory of Mr. Euler, therefore, bears a stronger resemblance to the theory of Capt. Symmes than the hypothesis of Dr. Halley. Capt. Symmes differs from Mr. Euler in supposing an opening towards each pole of the earth. This is the only circumstance which appears new in the theory of Capt. Symmes, as the rest of his theory has been frequently discussed and examined by many of the first mathematicians, and has still several supporters among the learned of Europe.

We have been always more astonished at the ridicule which has been cast upon the hypothesis of Capt. Symmes, than even with his proposition of exploring the regions towards the North pole. We offer these remarks not as believers or supporters of the project of Capt. Symmes, but with a view of showing that the ideas which he has offered to the public merit some consideration.

From the Liberty Hall of November 19th 1819.

THE CINCINNATI GAZETTE.

Messrs. Editors—While the theory of capt Symmes has served to exercise the wit and ridicule of newspaper scribblers, is it not a little astonishing that no person possessing the necessary talents and information has come forward and accounted for some of the facts which the capt. has brought in support of his polar openings? For instance, why a great portion of the fowls and land animals in a certain degree of latitude migrate north in autumn and return in the spring? How and where the numerous shoals of fish that come from the polar regions every spring find subsistence during the winter? and on what principle the mildness of climate, as stated by the inhabitants found by capt. Ross, can be accounted for. Until these subjects are fairly met and rationally accounted for, it would at least become the witty to exercise their talents on subjects they can understand.

Your's respectfully.

A friend to Genius.

From Western Spy of January 29th 1820.

The Icy Circle.

The following notices of the navigation in *Davis's Straits*, and the state of the weather there during the last year, will possess considerable interest with those who are disposed to look favorably on Capt. *Symmes's* Theory.

LONDON, November 25.

Davis's Straits.—The following interesting notices have been furnished by the several undermentioned whalers, recently returned from Davis's straits:—

'Capt. Hawkins, of the *Everthorpe*, reached 77°, 25' N. and saw the land to the east and west, which he supposed to be islands; open sea to the northward, no ice, except bergs which were aground; a swell from the westward, current set from the northward to south and east, 3 1-2 miles per hour; fine warm weather; foggy at times; thinks the country more clear of ice than last year; the land in the highest latitudes appeared more fertile and barer of snow than in the lower latitudes.

‘ Captain Blyth, of the Brunswick, went no higher than about $74^{\circ}, 20'$; found a great quantity of ice, more and heavier than on former years; the season has been uncommonly severe in May and June, and much of the ice was formed then.

‘ Capt. Knill, of the Ingria, went to 75° ; very severe season, ice very heavy, $7^{\circ}, 10'$, and 12 feet thick; upon the whole, there was more ice than in former years.

‘ Capt. Orton, of the Andrew Marble, made his fishery in the south-east Bay, lat. 68° , to 69° ; had severe weather; with strong northerly gales; the ice increased much during his stay by freezing, and the coming of fresh ice down the Straits; the season was much severer than last year, but he thinks the winter had been mild, the natives having told him that the country was several times broken up during the winter.

‘ Capt. Brass, of the Thomas, reached $77^{\circ}, 30'$, fine weather when there, thermometer about 40° , clear water, saw land both to the east and west; thinks the east land a continent, and the west islands had a level from the southward, current in the same direction; there appeared to be a passage to the north and west, but could not say how far it extended; season very severe; Bay ice formed in one night an inch thick in the middle of July; yet he thinks the country clearer of ice than last year.’

‘ Remarks.—It appears that the highest latitude attained by any of the whale fishers was $77^{\circ}, 30'$; but probably a large deduction must be made from this, on account of the greater refraction occasioned by the ice. I should judge from 40° , to 50° . The longitudes of these ships is very uncertain, the masters being too much occupied by the business of the voyage, to make the necessary observations.

‘ The summer has undoubtedly been much more severe than usual, but it seems probable that the winter was milder, not only by the account given to Capt. Orton, by the natives, but also from the circumstance of the high latitudes being almost clear of floating ice.

‘ It seems, however, that a greater quantity of ice found in 68° , to 72° or 73° than usual, which may probably account for the more sterile appearance of the land in these latitudes.

‘ It should be observed, that every year a great quantity of ice accumulates here, occasioned by the grounding of bergs on a reef of rocks, stretching across the Straits in the latitude about 68 degrees. And this forms the impediments to ships proceeding up the Straits, which can seldom be accomplished until a late period of the year, and sometimes is altogether impracticable.

From the Western Spy of February 12th 1820.

[COMMUNICATED.]

The following address was received by Capt Symmes through the Post Office, some time since.

Cincinnati, Ohio, 5th Nov. 1819.

DEAR SIR,

I acknowledge myself to be a firm believer in your Theory of the Earth, and were I not an obscure stranger would give you my name in testimony of my sincerity.

1. I believe it, because it is consistent with the economy which the Creator of the Universe has established in all his works.

2. I believe it, because it can be proved by natural appearances and defended and supported upon philosophical principles.

REMARKS.

The ideas of Copernicus, relative to the solar system, were by mankind, considered more erroneous, when he first promulgated them, than yours relative to this subject, are at the present day.

The ideas of Columbus relative to the existence of the great Western Continent, which he afterwards discovered, were regarded, when he first published them, as the phantacies of a disordered brain.

I hope you will persevere in your praiseworthy undertaking—I should be pleased to see all your proofs collected together and published in a volume. The detached parts in which your principles have been given to the public, render it extremely difficult and almost impossible to arrive at a true knowledge of your meaning. This difficulty would be obviated by a compilation of all your researches, which the public would be highly gratified, in my opinion, to possess, and would facilitate in a great degree the furtherance of your design.

To Capt. J. C. Symmes.

From the Providence Gazette of Feby. 7th 1820.

FOR THE PROVIDENCE GAZETTE.

NEW THEORY.

In our first number we intimated to our readers, that we might, in furnishing matter for our columns, occasionally follow Major Symmes in his attempt to penetrate the terrestrial crust, or with him might take a look in at the polar cavity of our earth. To redeem the pledge thus given, we have, from time to time, inserted in our columns, such of the speculations of this gentleman, as we thought might interest a reflecting mind, or amuse desultory readers. In our last number, we selected from the *Intelligencer*, a reply of Major Symmes to a writer who subscribes himself Galileo, and who it appears has, in a reply to Rittenhouse, crossed the Major's path, and directly or indirectly endeavoured to controvert some of his philosophical opinions.

This theory, we believe, was broached by Major Symmes, about two years since; soon after which time, he favoured distant individuals and corporations with his circulars, communicating the then novel intelligence that "the earth is hollow." How far he has succeeded in obtaining proselytes to a doctrine which has a tendency to undermine the opinions of the greatest writers, and eventually to dissolve the old Copernican system, and throw the Sun and other celestial luminaries into *pie*, we are not prepared to say. But since the promulgation of his positions, the exhibition of his proofs and illustrations, and his agitation of a question, which had been thought fully settled, we must agree with Mr. Jenkinson that the "cosmogony or creation of the world has puzzled (and we may add will puzzle) philosophers in all ages."

This gentleman certainly displays a commendable zeal in the prosecution of his favourite theory; and if his success in demonstration is commensurate with the boldness of his positions, we shall not long remain in the dark upon this important question. The author, provided he can have "*the disposable means*," intends to take a journey to Washington, where he can disclose the results of his long philosophical reveries to the great men of the Capitol—and after they have settled the Missouri question, and passed the Bankrupt bill, may be gratified with "an exploring outfit," which will waft him with spreading sails into "thrilling regions of thick-ribbed ice," where he may solve his own doubts, and satisfy those of inquisitive millions.

Whatever may be the result of his enquiries (and we would certainly withhold our own opinions in such an early stage of the discussion) we may safely say that, as they will invite people to think for themselves, and elicit sparks of genius from philosophic minds, they will have a happy tendency on society; and it is with great satisfaction that we have it in our power to acknowledge the receipt of the following original Communication upon this popular topic.

The well-regulated laws of gravity, the measures taken in different places, and on the same meridian, have demonstrated to us, that the greatest mathematicians are mistaken as to the real figure of the earth.

The circular shade of the earth, in an eclipse of the moon, is by no means a proof of the circularity of the equator, and of the spherical form of our globe: this phenomenon is caused by the vapours and the shade which the irregular intervals mutually reflect from the earth to the moon, as opaque as the solid parts are: this truth

is demonstrated not only by observations made on the earth, but by the same irregularities that a good telescope shows us in the moon.

Mr. Symmes having observed, perhaps, the different bodies that the microscope discovers to us in the cells of the earth, and by the irregularities of their parts, they touch but by small surfaces, has concluded that the air contained in the cavities, which causes their lightness, indicates the result of his theory; this manner of philosophising is very commodious, but had he reflected that the laws of gravity are directly in opposition to the theory; that water is an assemblage of little particles, long, flexible, and polished, which easily penetrates the pores, and expels therefrom the air which causes its lightness, and thus serves for the base of other elements, he would have learned that his philosophy was not the most wise.

How does Mr. Symmes explain to us, by his theory, the phenomenon of the nitrous and gross vapours which the vertical rays of the sun raises from subterranean sources, on regions that are deprived of them, or that receive them too obliquely, that the ethereal matter might agitate the water which produces the ice?

How does he give us a plausible reason to make coincide with his theory, the melting of the snow and ice, without the equilibrium will be altered, or the means, without which, the torrid and temperate zones, would be calcined by the burning ardour of the sun? These reflections are simple, but they become the mind, when a man imagines he has seen in a favourite object, all that can be seen.

CAPT. JOHN CLEVES SYMMES.—This gentleman has excited some attention by the singularity of his notions, concerning the structure of the earth. On Friday evening last, he delivered a lecture on the subject, in the lecture-room connected with the museum of the college. A large and respectable audience evinced the public curiosity. The arguments and illustrations, with which the lecturer entertained them, were substantially the same as those, which he has from time to time communicated through the press.

We have always considered the theory of Capt. Symmes, as one of those extravagant and absurd speculations, into which an inquisitive enthusiasm frequently betrays men of highly respectable understandings, who exhibit as much solidity of judgment and soberness of views on other subjects, as the generality of their neighbors. We heard nothing in his lecture to change, but much to confirm this opinion. He complained of the treatment he had received; and particularly of the ridicule, which has occasionally appeared in some of the newspapers; and we are not so sure, that he has no reason to complain. His respectability should have ensured him more serious argument and less derision. The absurdity of his theory should have been clearly and unanswerably exposed, by those who thought proper to notice it. To do this, it was only necessary to refer to some of those effects, which must be produced by gravitation—a principle, which he acknowledges, and by which he undertakes to prove the correctness of his theory.

If we suppose the world to be a single spherical shell of matter, possessing the principle of gravitation, which all matter is known to possess, it may be mathematically demonstrated, that a particle of matter situated in any part of the cavity, would be equally attracted in every direction, and have no weight at all, provided the world were at rest. If placed at the centre, it is obvious, the attraction of the shell would be equal in every direction. If placed at any other point, between the centre and concave surface, or on that surface, the attraction would

*From
Literary Cadet of
Cincinnati of
March 30th 1820.*


still be the same on each side of it; because, although the force of attraction would be diminished on one side by distance, and increased on the other by proximity; yet the *quantity* of matter subtending any given solid angle on the distant side, would be increased in the same proportion, in which its attraction would be diminished, and would therefore still possess the same aggregate force; and on the other side, the quantity of matter subtending a given solid angle, would be diminished in proportion as its attraction was increased by proximity, and would therefore still remain the same in its aggregate power on the particle. Any thing situated on the inner concave surface, would therefore possess no weight at all: but in passing out through the shell, it would gradually acquire weight, and on the external surface would be drawn inwards by all the force of attraction in the whole shell.

Suppose then, that a hole is made through the shell to the inside, or that its substance is porous—what must be the consequence? All the water on the outside would immediately run in through the hole, or gradually filter through the pores, just as certainly as we now see it soak into the earth or fall to the bottom of a well. The Atlantic and Pacific oceans would immediately run into the interior cavity by the supposed openings at the poles. Besides, if the shell be composed of loose earth and rocks throughout, what shall prevent it from breaking in by the pressure of its own weight?

But suppose we give the shell a rotatory motion on its axis, the centrifugal effect of which at the equator would be sufficient to counter-balance the gravitation, or to uphold the arch and keep the fluids on the interior and exterior surfaces in equilibrium; and which would consequently give things on the inside some weight or pressure towards the surface—what would then be the consequence? The centrifugal force would gradually decline towards the poles, at which it would be nothing: its direction would gradually change, in relation to the attraction, which it would cross at an angle in proportion to the latitude; and would proportionally

cease to counteract the attraction. The latter would therefore continue to have nearly as great an effect on the fluids in high latitudes, as it would have, were the shell at rest—that is to say, all the fluids in high latitudes would run in at the polar openings, or subside through the earth; and on both sides, the centrifugal effect of the motion would carry them towards the equatorial regions. No fluid could therefore remain in high latitudes, neither on the outside nor the inside of the shell. The fact, that the form of the world is an oblate spheroid, could make no difference: nor would the existence of other shells in the interior prevent the catastrophe: the effect of such shells would be, to increase the central attraction, and hasten the result. Nor is it possible, that the solid parts, composing the edges of the shell at the polar openings, should not crumble off, and tumble in, like the fragments of an arch, after the key-stone is taken out. It is therefore demonstrable, on the principles of gravitation, to which Captain Symmes appeals, that his theory of the earth cannot be correct.

Yet we must declare, that we should be extremely gratified, to see the Captain at the head of an expedition, fitted out by the government, to explore the interior by the north pole. There is no military, or naval project, or enterprise, or service, on which we should be more pleased to see a few thousand, or a few hundred thousand, dollars expended—especially if his ardor and confidence should continue unabated. His enthusiasm and personal firmness are a pledge, that *he would never return*, without being able to give a good account of the arctic regions. He is the right kind of a man to send on such business.

 A meeting is to be held this evening, at 6 o'clock, at the office of D. ROE, Esq. to consult on the best means of affording aid to the Captain, to prosecute the enterprise. None but those who have at least a partial belief in the *New Theory* are invited. We wish them success in *raising the wind* for him.

*From Western Spy, Cincinnati of June 1st 1820.
quotation.*

It has been remarked by an excellent contemporary writer, that "the fate of many projectors has been so melancholy that it requires, at this day, the daring spirit, and the enthusiasm which are naturally allied to genius, in any man to announce himself as the inventor of any thing new and extraordinary. The patience and perseverance of a Galileo, and the adventurous spirit of a Fulton, are necessary to him who would benefit his species by the result of original plans and forms, or that of new combinations of old and tried ones. Hence we cannot but admire and respect the man, who, regardless of the hard fate of so many who have trod before him the thorny path of improvement,

still has the fortitude or philosophy of mind, to spend years in toil and study; to labor by day, with persevering industry, and trim the midnight lamp, with the vigilance, ascribed to the ancient vestals, in bringing to perfection an idea from which he hopes to reap fame and benefit to himself, and to reflect credit, at the same time, upon the genius of his country."

New York Spectator, May 4.

From Liberty Hall of April 25th 1821.

In compliance with the wish of our correspondent "W." we have inserted the editorial article of the Bardstown, Ky. Repository on the subject of Captain Symmes and his concentric spheres; but, with deference to our correspondent, we must beg leave to dissent from his opinion as it respects the *wit* of the Bardstown Editor. Although we have not the happiness of being among the enlightened few who believe in the Captain's theory, we are not at a loss to discover the ignorance, malignity, self-sufficiency and nonsense indicated by the remarks of the Repository. They are so far removed from wit, that we should have sooner thought of any other appellation for them. We should apologize to Capt. Symmes

and his friends for intruding his name in the manner in which it is mentioned in this article into our columns, but we can assure them that it is only to expose the writer to the contempt he deserves. We have occasionally published pieces of humor at the expense of the Captain's theory, but they have generally had some pretensions to wit unmixed with the arrogance and nonsense of the Repository. Those who know Capt. Symmes esteem him as an amiable worthy man, and setting aside his own feelings, it must be painful to his friends to see him made the butt of a stupid and senseless ridicule, and all the world will cry out shame to such trash as the following.

FROM THE BARDSTOWN REPOSITORY.

John C. Symmes, again.

This noted geological *philosopher* still appears to be figuring upon the *public theatre* at Lexington Ky. the singular excentricities of this chimerical innovator upon the doctrines of our globe has long rendered this luckless wight a fit butt for wit and pleasantry to split and crack their jokes upon, and irony and satire was his only due while he confined the promulgation of intellectual vagaries and perturbed Rodamantadism to the ephemeral and evanescent publications of the day.

But since Mr. Symmes has had the boldness and temerity to commit his ridiculous whimsies to the press in a more solid and permanent form, and make an *interested* and lucrative business in their dissemination by public lectures, he may be deemed worthy of some further notice.

And here we cannot but observe, that we feel less astonishment at the fooleries and duplicity of Mr. Symmes than at the credulity of the Lexingtonians, in giving audience and bestowing respectful attention and patronage to him, for which courtesy and beneficence indeed this noble gentleman very graciously in an address in a late "Kentucky Reporter" returns his gratitude.

Now can it be conceived that the "enlightened" citizens of Lexington at the very vestibule of their university under the irradiating beams of this illuminating institution can feel themselves so far interested in this ridiculous nonsense and stupidity as to induce themselves to purchase tickets to one and a second course of lectures upon the wild and incoherent theories of Mr. Symmes, and endeavour to give them celebrity by public essays in support and countenance of them.

Were we permitted gravely to give our opinion of this modern "Golatio" we should deeply suspect the arch philosopher of insincerity in his doctrines; they are too absurd even to receive the credence of Mr. Symmes although he appears to be a man ignorant and illiterate and perfectly destitute of all the essential qualifications of a teacher—we should suspect that Mr. Symmes has seized upon the novelty of his opinions as a means of attracting public curiosity which he *Yankee* like intends to turn to his own advantage, not as to "centric and concentric" globes and polar concavities but as his own pecuniary interest in his present state of existence.

Mr. Symmes fallaciously founds his doctrine of polar concavity &c. upon the absurd and erroneous hypothesis of centrifugal velocity producing increased gravity which he supposes to be effected in the waters of the Arctic Ocean & a consequent increased aptitude to congelation to which cause he ascribes the perpetual state of snow and ice there, although that region is comparatively temperate & inhabitable a North wind perpetually blowing into the mouth of his mighty *creator* like the caverns of *Eolus* he consistently enough ascribes to the like "agency" producing there as he imagines what he mistically terms a "reduction" of atmosphere—as these two powers operate in *opposite* directions; Mr. Symmes is entitled to the superior sagacity of discovering their *unity* of action.

We deem an apology due our readers for thus far engrossing their attention with this very notable and much distinguished philosopher, but the boasted attentions he has lately received in Lexington must plead our atonement for the intrusion of such miserable *ribaldry*.

But should this adventurous wight still be determined to prosecute his explorations into his polar concavities, (any of the daring spirits of his Lexingtonian admirers resolving to accompany him) we would advise him (in preference to his Southern rout) without the aid of government immediately to repair to *Vanderman's Land*, where he may find the "sky scraper" balloon, a pair of *Dedalean* wings or another *Pegasus* with which he may be enabled to push his way like *Melton's* Satan through mid nether air chaos and night and if he should per chance to thwart the tract of a comet, mount upon its *tail* an adventure worthy of his genius, and scale the vault of Heaven, knock down the stars and drive up to the fountain of light; but aware lest he scorch his whiskers at the blaze, or per chance the *sun* transmute him to a Salamander and he ingloriously return again on his fiery steed like the buzzing chariot of another hapless *Pheaton*.

From Western Spy. of October 27th 1821.

FOR THE SPY AND CADET.

Copy of a letter from Dr. Mitchill to
Capt Symmes.

NEW-YORK, Aug. 31, 1821.

To Captain J. C. Symmes,

Dear Sir—

I had not heard the opinion you send me, of the royal academy of Science, concerning your theory of our earth. It is a pity when men judge hastily, and decide with too much precipitation. But what can we do with them? Galileo was too early for his day: Mayow was more than half a century a-head of his age: and if Symmes outstrips his generation, there is no ground for marvelling. Should I learn any thing interesting. I will let you know. Yours with admiration.

SAML L MITCHELL.

From the Charleston Mercury.

That strange character, John Cleves Symmes, our readers will observe, has petitioned Congress for aid in his mad projects. As his purpose is of a profound and penetrating nature, he must needs think that he could no where apply more properly for assistance in forwarding it, than to the collected wisdom of the nation. Observing that Congressmen profess to know every thing, and to talk about every thing, he concludes that he is addressing Philosophers—as he finds them abetting some whimsical theories of their own, he takes the freedom of offering them one that they never dreamed of should they be in a serious mood, he imagines they would ponder on the magnificence of his plan; and should they be disposed to trifle, he furnishes them with a more excellent pretence to do so, than they can find in the high responsibilities with which their country charges them.

It is afflicting to see such things. A member of the gravest body of our legislature rises in his place, and presents a petition from a visionary schemer—it is read in merriment, but it goes seriously to the world; and alarms thinking men by the excessive frivolity that it displays in an assembly where frivolity should never appear.

The petition could do Symmes no good, but it can affect the character of the country; and that ought to be high matter with a member of the national councils.

From
Washington City
Gazette of
March 21st
1822.

From Western Spy of October 30th 1819-

[For the Spy.]

Aurora Borealis.

Harrison, (O.) 13th October, 1819.

Messrs. Mason and Palmer,

I last evening witnessed, in this place and the neighborhood, one of the most splendid appearances of the Aurora Borealis I ever had opportunity to observe. I had, from my youth, been accustomed to these phenomena. I had seen them red, white and changeable; but, for splendor, magnificence and duration of the corruscations, I never saw them exceeded.

About 6 o'clock, the sky in the north, from N. W. to E. N. E. appeared more luminous than usual. In about three fourths of an hour, I observed something like a bright cloud near the N. W. point, at about twenty degrees of elevation. Not being yet quite dark, I at first supposed it to be a cloud, illuminated by the sun; but in two or three minutes it extended itself towards the pole star, while, at the same time, another luminous spot appeared in the E. or E. by N. which also extended itself, until they met and formed a beautiful luminous arc, occupying about one or two degrees above and below the pole star—appearing to the eye a true segment of a circle, cut off in its western limb by a sine, which was marked by a bright silver colored streamer, not convergent but perpendicular to the cord of the arc. The pole star was in the zenith of the arc.—Below this luminous arc, or belt, appeared a crescent of a dark, rather dismal, hue, in which the stars were partially obscured; while, neither in its luminous concavity, nor in the belt above, could I perceive any impediment to a view of the stars as usual. This operation, if I may so term it, was repeated a little before 8 o'clock, as I judge, but commenced at a point a little to the S. of N. and extended thro' the pole as before, resting its imperfect limb on a column of light considerably larger and more brilliant than before. About 9 o'clock a brilliant streamer shot

up in the N. W. about the place of the former, which increased in size and brilliancy until an illumination had formed at the top, at first resembling the half of a spear, cut longitudinally; it then took nearly the form of the index generally drawn on maps to show the N. point; after this, nearly the form of a battle axe, having for its shaft a most beautiful column of light, the largest of the kind I ever saw. The whole horizon, between the N. W. and N. E. and occasionally much more East, was so much illuminated as to cast distinct shadows on the N. sides of white and light colored buildings. This part of the exhibition had frequently a slight blush of red. About 12 o'clock I was called up, and rode 5 or 6 miles in a direction favorable for observing it again. I did not notice more than two or three of the belts and none after 9 o'clock; but the horizontal part continued with very brilliant corruscations until daylight hid its phenomena from view. This is but the second northern light I have seen in this country in upwards of seven years. The other was on the night of the memorable 11th of September, 1814, after Commodore M'Donough's victory on Lake Champlain. I am informed it was very brilliant there, but here it was not, and was confined to a narrow compass near N. E. I was informed also of one in April of that year, but did not see it. They are, I believe, much less common here than at the north eastward; and even there, in some years, they are unfrequent. During the revolutionary war they were frequent and attended with unusual phenomena; but from 1783 to 89 there were very few and those not remarkable. In 89, which was very wet, there were several of extraordinary appearance. They continued frequent for 6 or 7 years. In 1805, 6, 7, and 8, there were many; but in 1809, 10, and 11, I recollect of none worthy of remark. It was, however, I think in one of those years that the Rev. Mr. Gross and some of his pupils in Vermont discovered a part of one of those lights to be included between

two mountains, or hills, so as to leave no doubt of its proximity; for its distance, as I understand, might have been measured with ease. His account of it appeared in the newspapers soon after the time of the discovery. Northern lights at the northward, are by intelligent observers considered usually the precursors of storms; yet, many there as well as here, look upon them as they do on comets, omens of wars or other great national calamities. I had almost forgot to notice what may well be recollected, that the wind during the day preceding (ie. Tuesday) was at N. E. * and in all probability we shall find it the forerunner of our long delayed autumnal storms.

I should not have noticed this publicly, but for the hope of eliciting further notices from other observers, by which means some idea of its extent may be formed.

Yours &c. respectfully.

N. CROOKSHANK.

*At Cincinnati, the wind, during the day, was from the N. W. The atmosphere was remarkably transparent, as it had been for several days, the temperature cool, and agreeable. The lights, too, as already noticed by us, were permanent a little E. of north, but displayed east and west of this point; running most constantly west to the extreme N. W. like a rapid running fire, throwing up streams successively till the whole heavens would be covered with a sheet of light.

*From the Western Sp. & Cincinnati General
Advertiser "of May 22^d 1819 -*

[Communicated.]

[At the request of Captain Symmes, we publish the following articles, selected from his file of manuscripts in the Reading Room, as "the most notable samples, not heretofore published, of the addresses he has received."]

*Brownsville, Jackson Co. Illinois, }
May 2, 1819. }*

SIR—When any man presents a new theory to the world, it appears to be one of the principles ingrafted into human nature, to treat it with a degree of ridicule, proportioned to its originality. I confess, that on the first developement of your theory, of "hollow spheres," I joined the general cry of "*mad-man*," because I had not then thought of the subject sufficiently to draw accurate conclusions; and I presume this is the case with many of your opponents at present, who treat with contempt what they cannot comprehend, or will not take the trouble to investigate.

Notwithstanding you are an entire stranger to me, (except from fame,) I cannot resist the desire I have of making known to you, some additional evidences, which I have not observed in any of your numbers which have come to hand, and I hope this may answer as an excuse for my intrusion.

Should the earth be hollow, of which I have now as little doubt as I can have on any plausible theory, not perfectly demonstrated, it must, in addition to an atmosphere like our own, possess, centre-ways, between the shell and inner globe, that peculiar electrical or phosphorescent ether, which forms the outer strata of the atmosphere of the sun, which is continually dispensing light, and bringing into action the latent heat of the planets composing the solar system; & which light, electrical fluid, or whatever it may be, is as constantly selected and returned to the centre of light (the sun) by its postillions, the Comets. That a substance similar to this issues from the poles of the earth, the frequent appearance of the *aurora borealis*, in very high latitudes, would seem to

demonstrate: and that it is returned to, and emitted from the sun, though more indirectly than to the outer surface of the earth, is highly probable.

The theory on which I predicate my second evidence of the truth of your positions, being perhaps as new as your *own* theory, will no doubt meet with its opponents and scoffers. It is simply this: that it is *cold* which gives polarity to the needle—that what has been styled the “*magnetic fluid*,” is nothing more than a consequence of heat being in a latent state in the polar regions, and by the affinity which one body has for another, the point of the needle is attracted in that direction. Were the earth closed at the poles, of course the greatest degree of cold would be under the pole itself, or in the centre of the arctic region; consequently the needle would never vary. This we do not find to be the case: but we find that vessels going very far north, have their needles to turn nearly east or west, according to which side a continent lies (which is always colder than the ocean) and that the dip of the needle is in proportion to the distance you are north or south. From this, I would infer, that the greatest degree of cold is at the icy ring which surrounds the orifice of the pole, and which lies, perhaps, in the 84th d. The poles of the inner globes, must partake of nearly, if not quite, an equal degree of cold, and by their movements on their axis must contribute to the phenomenon of magnetic variation. That cold is the cause of the polarity of the needle, I could adduce one hundred convincing proofs, though foreign to the subject of the present letter; but the variation of the compass can be accounted for in no other manner than from a polar orifice, and inner globe.

That the author of nature should have created such an immense mass as the inner part of our globe, to be destitute of animal life, is very contrary to what we observe on the surface. But how are we to approach the Elysian Fields of the inner regions: Following the track of the reindeer through the deserts of Siberia, appears a Herculean undertaking; besides, if the map be correct, it is bounded on the north by the ocean. If I mistake not, we can reach the highest latitude in the neigh-

borhood of Spitzbergen. Supposing a vessel there, in the summer season, to reach the 83d deg. before it came to solid ice, then a man might travel on this ice in four days to where the climate would begin to change and become more temperate.

The great probability is, that there is sometimes a current of air going in and sometimes out of the polar opening. Take the tide of air as it sets in for the great orifice and a balloon would add ease, safety, and facility to the mode of travelling—and the same means would bring you out, by a contrary tide of air. Hydrogen gas, sufficient for the purpose, could any where be obtained.

If this hasty sketch, containing a small part of my reflections on the subject of your truly grand theory, can be of any service to your plan, you are at liberty to make what use of it you think proper.

Wishing you every success in an undertaking so vitally interesting to science, and to the human family at large,

I remain, with respect and esteem,

Your very humble servant,

HUGH STEEL.

Capt. Symmes, Cincinnati, Ohio.

The following remark, was furnished me by a friend, (who is a member of the American Philosophical Society) with liberty to use it as I might choose. As it corresponds with my ideas in a superior style, I cannot apply it better, than by laying it before the public.

JOHN CLEVES SYMMES.

Reading-room, Feb. 5, 1819.

Animation and diversity appear to have been the principal aims of the great author of creation. The air we breathe, the water we drink, the vegetables on which we feed, indeed every leaf and plant of the forest and field—all, all teem with animal life. Why, then, should we suppose, or, rather *presume* to think, that the Almighty Fiat which gave existence to matter, for the support and maintenance of creatures innumerable, and endless in the variety of their configuration, their colours, passions, and pursuits—why, I say, should we presume, that any, even the smallest particle

of the immense, the innumerable orbs that form the universe, is composed of inert matter, without activity or design? This earth, compared with the magnitude and number of others, is but as a pin's point. and yet we can hardly conceive, small as it is, tho' large to our limited comprehension—that this our Globe, nearly 8,000 miles in diameter, was ever designed to have animated nature confined to its mere surface, and all the rest to remain a useless void! Such an idea is unworthy of that divine Being, whose essence is all perfection. May it not be rationally inferred, then, that for the object of extending animation, spheres are formed within spheres, and thus habitable superficies multiplied.

*Extract of a letter from Mr. URI
BROOKS, to J. C. S.*

BATON ROUGE, LOUISIANA, Sept. 20, 1818.

Sir,—Your novel hypothesis, in which you "declare the earth is hollow" &c. I conceive to be a most happy and important discovery; highly calculated to advance the progress of science, and which will unavoidably redound to your own immortality. I heartily congratulate (but I had almost said envy) you, sir, on this all important discovery.

"Memoir 2," dated at "St. Louis, June 17," contains incontrovertible evidence of the truth of your doctrine.

In "Memoir 3, June 24th," are several corroborating proofs, the second of which, I consider the most powerful and conclusive.

That success may attend your researches, & that your future progress in the career of discoveries may be as rapid, as your present acquisition is brilliant, is the ardent wish, sir, of

(Signed) URI BROOKS, Senr.
Capt. John Cleves Symmes.

N. B. You are at Liberty to dispose of this as you may deem proper.

Quotation from Mr. Uri Brooks' second letter to
J. C. S. dated Baton Rouge, Feb. 6, 1819.

"I have no knowledge of the authors to whom you refer me; but I recently stumbled upon "St. Pierre's studies of nature." If currents exist in the Ocean as he states, they may be considered as strong corroborating proofs of your doctrine: but I can by no means give my assent to the causes he assigns for those currents; or for the ebbing and flowing of the tide. His remarks on the migration of fishes will bare the same conclusion.

"Recent accounts from the arctic expedition, concerning currents in those seas, are also in unison.—The huge vortex in the Norwegian seas, it is believed, is of the same class. The migration of animals and fishes, according to your ideas appears very plausible."

Further quotations from Mr. Brook's letters will be inserted at a future time.

REASON.—The reason of things lies in a narrow compass, if the mind could at any time be so happy as to light upon it. Most of the writings and discourses in the world are but illustration and rhetoric; which signifies as much as nothing to a mind in pursuit after the philosophical truth of things.

[It is probable, that there are few men on this side forty, who can appreciate the justness of the latter clause of this paragraph. But beyond this age, when the fancy is not so easily beguiled, and the mind becomes weary of subtleties, its force is fully felt.]

*From the Western Spy & Cincinnati general
advertiser of June. 10th 1819*

[COMMUNICATED.]

NEW-YORK, MAY 23, 1819.

John C. Symmes, Esq.

DEAR SIR,

I sieze my pen for the purpose of informing you that your ingenious and interesting paper, entitled "Arctic Memoir," was read before the Lyceum of Natural History here, at the last meeting, on the 17th inst. and heard with great attention. It remains on file for future consideration.

Captain Ross has, it appears, fallen under the displeasure of the British government, for abandoning the northern expedition entrusted to him, before he had sufficiently exerted himself. I own I was disappointed in the result. Had Symmes been the commander, I think he would have pushed further and given a better account of the region near the pole.

An enlarged and new edition of my Essay on the Ice-islands of the Northern Atlantic Ocean, has, within a few weeks, been published. It embraces all the memorable facts, from 1805 to 1819, inclusive, on the production of hyperborean ice, and the dangers it presents to navigation, as it drifts towards the south. It is contained, for the purpose of more extensive diffusion and usefulness, in pages 71 to 76, a very late publication of Mr. Edmund M. Blunt, the distinguished author of Nautical Books and Charts, under the title of "Analysis of the authorities upon which the dangers have been inserted in Blunt's new chart of the Atlantic or Western Ocean." On being asked if I would consent to a republication of it, from the 10th vol. of the Medical Repository, I immediately consented, and have accordingly placed it before the navigating world, in a very important form.

But I am transgressing my time and limits; and therefore I restrain my hand, to the assurance of my great esteem and regard.

SAM'L. L. MITCHELL.

*From The Western Spy & Cincinnati General
Advertiser of August 28th 1819 -*

CONSTITUTION OF THE GLOBE.

The following reflections and experiment on central forces, and on the constitution of the globe we inhabit, are contained in a letter from Thomas Tufts, of Genessee county, N. Y. to Dr. Mitchill of New York, dated July 22, 1819. The opinions of our philosophers, Mitchill, Symmes, and Tufts, are probably not more visionary than those of Newton and Copernicus were once supposed to be.

Galaxy.

SIR—Although a stranger I shall make no apology for addressing you, on so interesting a subject to all scientific men. Accident brought me to reflect upon the formation of the earth. Taking it for granted, that this earth has been of a consistence that would take shape by motion, and from what has been discovered, there are strong arguments in its favor, what would be its internal structure? I have observed in a common barrel churn, that a quick regular motion, would throw the cream upon the sides of the churn, without any agitation, leaving none at the ends, and I had observed, that a regular motion given to a grindstone, that was hung perfectly true, would retain water upon the top of the stone without throwing it off; I considered that the laws of nature and of motion must be uniform. It occurred to me that motion must produce the same effects on this earth that we see it have on smaller bodies. These considerations induced me to make a machine to demonstrate this as far as I possibly could. I accordingly prepared an artificial globe, from a pine log, about nine feet in circumference, as near the known shape of this earth as possible: open at the poles, the concavity of the inside, answerable to the convexity of the outside, the aperture at the poles answerable to about 36 degrees of the earth. I then fixed it on pivots, with machinery to give it a very quick motion. I then turned water in the inside of the ball, and put it in motion, and the event was as I had anticipated; the water spread itself smooth upon it, in a smooth even surface, without any attempts to fly off. I then perforated the ball in a number of places; it created as many most beautiful springs of water upon the outside of the ball, which satisfactorily accounts to me for the origin of springs and of course of rivers, and it will press the water through the pores of the wood sufficiently to moisten the whole outside surface.

I contemplate fashioning the outside of the little Globe like unto this earth, cut out the oceans, continents, rivers, valleys, &c. and if I can contrive any method to counteract the ef-

fect that our atmosphere will naturally have upon it, I have no doubt, from what I have already observed of the effects of motion, that the rivers and valleys may be filled with water from the inside, the ocean filled, the regular oceanic currents formed, the water flowing from the inside to the out through the perforations, from the outside to the inside through the poles, and the whole phenomena explained in a satisfactory manner, so that the whole process may be seen in miniature with the eye; the polar attraction of the needle explained and the variation of it accounted for.

I find by placing the north end of the Globe in a dark place, and having a bright light placed in the position that the sun bears to this earth in a south latitude, the rays of light are thrown in at the south pole, and reflected at right angles, and pass out at the north pole in a manner perfectly calculated to explain the aurora borealis, and show it in a most beautiful manner, and shows that the inside or hollow of the earth, may be as well or better lighted and warmed by the sun than the outside. From these experiments I am fully convinced of Symmes's theory, and that the earth would be incomplete without the hollow.

CAPT. SYMMES remarks, that all the facts explained by means of the above described wooden globe are such as might have been calculated on with a great degree of certainty, without experiments, by well considering the qualities and laws of gravity and the centrifugal force of rotation; which laws he conceives (although he has tried no similar experiments) will forbid all liquids, which escape from within the wooden globe either through the proposed appertures or through the polar openings, from returning within again, unless one axis be depressed lower than the other; as the earth's axis is depressed alternately and semi-annually, in relation to the sun. In the case of such a depression, however, he conceives, the monsoon and oceanic currents of air and water might be pretty well evidenced by the rotation of the wooden globe; yet, unless the shores of the continents be cut very deep and steep, and the globe turned only moderately on its axis, the water will not only fly towards the equator, in such a degree as to leave the bed of the ocean about the upper pole bare of water, but under the existing circumstances of our atmosphere and gravity (the latter of which is so much greater relatively to the wooden globe than the gravity of the sun can be in relation to the earth) it will be projected along up the shores, valleys, and mountains, of the tropical regions of the ball to their extremities.

J. C. Symmes thinks the writer of the letter, Mr. Thomas Tufts—intitled to much credit for his declaration in favor of "the new theory." His coming forward as he has, will encourage others to investigate and declare in its favor, who were before prevented either by doubt or the risk of being ridiculed as visionaries.

Cincinnati, Aug. 28, 1819.

BY REQUEST.

[From the National Intelligencer.]

Gentlemen,—Your readers must have been delighted and highly edified by your extracting from the Cincinnati Gazette the note upon the Weather, by that ingenious speculatist John Cleves Symmes, showing that *the rise and fall* of the Ohio River may very probably depend upon the seasons which prevail *close under the umbrage of the north polar verge, near the polar opening*; and that the thaw usually occurring in New England about January or February, may somehow be connected with the summer, which is proved (so fully to my satisfaction) to prevail within the said verge during these months.

I was much gratified by the publication of the *Arctic Memoir* of Captain Symmes, because it demonstrated the truth of a Jewish tradition, that God, in forming the earth, had left a large opening in the northern regions, saying, that if any one should ever attempt to pass himself off for a God, he might be required to finish the work and to close up the opening. It is pleasing to witness the discoveries of modern days verifying the traditions of antiquity.

I am nevertheless a little puzzled how to reconcile the theory of concentric spheres with a *fact* which is communicated to us in the works of the learned Rabbi Abrabauel, viz: that, as all the Jews are to be in Palestine at the day of resurrection, the bodies of all such as die out of that country, will be transported thither through subterranean canals, dug for the purpose by the Creator. Now, as it is ascertained that that nation, since the dispersion, has inhabited every section of the known globe, and that their mortal remains have of course been deposited in a great variety of situations, it appears to me that it would be hardly possible to pierce the crust of our exterior sphere by so many canals as would be necessary for the above purpose, without endangering its falling in, (to the utter dismay of our *internal neighbors*) if it be as thin as represented by these modern discoveries. I should be glad to be convinced, by such argument as I am sure are within the power of the author of the theory, that my apprehensions are groundless.

NEOPHYTE.

From the Western Spy: and also in the Liberty
Hall of Augt 31st 1819—

FROM THE NEW YORK ADVERTISER.

It is well known to the public, that Captain Symmes, a philosopher who resides in the state of Ohio, by some fortunate exercise of his genius and learning, has discovered that the earth which we inhabit is hollow; that there are openings at the poles through which a passage to the inside might be obtained, and that the discoverer himself has it in contemplation to make a trip, one of these odd times, through the great central cavity. Within a short time past, the following letter has been published in one of the newspapers in this city, and appears to be from a philosopher in the western part of this state, to one residing in this city, in which we not only find Symmes's theory confirmed, but an account given of the very manner in which this great hole through the globe was made. The process seems to have been a plain and simple one. Mr. Tufis appears to consider the earth to be a kind of large barrel churn—the interior of which, we presume, must have been full of *chaos*, and the earth being set in motion, that is, whirling round on its own axis, as the churn does on its crank, by and by when the butter came it stuck round upon the staves of the churn, forming a sort of under-crust, leaving a hollow space within where there was nothing remaining except the liquid, otherwise called butter-milk. In order to account for the existence of water, that is oceans, and rivers, and lakes, upon the outside of the globe, the writer resorts to an explanation equally simple and familiar—he says he had observed “that a regular motion given to a grindstone, that was hung perfectly true, would retain water upon the top of the stone, without throwing it off”—and therefore, as the world is round, and turns faster than any grindstone, the waters, once upon the outside, and not having time to run off, keep their places upon the surface. We do not exactly *see through this grindstone*. In all cases that we have witnessed, the water that sticks to the surface of a grindstone, as it goes round, is supplied from a trough below, from which the stone, passing rapidly through, carries a small quantity, which, not having time to fall off, goes round again, and is discharged into the trough from whence it came. Now, if there was nothing but a streak of water about the middle of the globe, which might be supposed to come from some mighty trough underneath, there would be some plausibility in this theory. But, we have some water and some land, some mountains and some vallies; and, fast as the world goes round, we find that water will *still run down hill* when it gets a chance.

As the soundness of the plan of accounting for the origin of rivers, by supposing that the world is bored full of holes, and that the water is forced through by the world's turning round, we pretend not to be competent judges.—It would seem, however, that unless there is some mode of getting the water back again, the original quantity must, first or last, be exhausted, and the streams become dry.

After all, there must be something inside beside butter and buttermilk, or else there would not be so many earthquakes.

From the New York Mercantile Advertiser.

Reflections and Experiments on central forces. And on the constitution of the globe we inhabit.

COPY OF A LETTER TO BR. MITCHELL.

Le Roy, Genesee County, N. Y. July 22, 1819.

Sir—Although a stranger, I shall make no apology for addressing you, on so interesting a subject to all scientific men. Accident brought me to reflect upon the formation of the earth. Taking it for granted, that this earth has been of a consistence that would take shape by motion, and from what has been discovered, there are strong arguments in its favor, what would be its internal structure? I have observed in a common barrel churn, that a quick regular motion, would throw the cream upon the sides of the churn, without any agitation, leaving none at the ends, and I had observed, that a regular motion given to a grindstone, that was hung perfectly true, would retain water upon the top of the stone, without throwing it off; I considered, that the laws of nature and of motion must be uniform. It occurred to me that motion must produce the same effects on this earth that we see it have on smaller bodies. These considerations induced me to make a machine to demonstrate this as far as I possibly could. I accordingly prepared an artificial globe, from a pine log, about nine feet in circumference, as near the known shape of this earth as possible, open at the poles, the concavity of the inside, answerable to the convexity of the outside, the aperture at the poles answerable to about 36 degrees of the earth. I then fixed it on pivots, with machinery to give it a very quick motion. I then turned water in the inside of the ball, and put it in motion, and the event was as I had anticipated; the water spread itself smooth upon it, in a smooth even surface, without any attempts to fly off. I then perforated the ball in a number of places; it created as many most beautiful springs of water upon the outside of the ball, which satisfactorily accounts to me for the origin of springs and of course of rivers, and it will press the water through the pores of the wood sufficiently to moisten the whole outside surface.

I contemplate fashioning the outside of the little Globe like unto this earth, cut out the oceans, continents, rivers, vallies, &c. and if I can contrive any method to counteract the effect that our atmosphere will naturally have upon it. I have no doubt, from what I have already observed, of the effects of motion, that the rivers and vallies may be filled with water from the inside, the ocean filled, the regular oceanic currents formed, the water flowing from the inside to the out through the perforations, from the outside to the inside through poles, and the whole phenomena explained in a satisfactory manner, so that the whole process may be seen in miniature with the eye; the polar attraction of the needle explained and the variation of it accounted for.

I find by placing the north end of the globe in a dark place, and having a bright light placed in the position that the sun bears to the earth in a south latitude, the rays of light are thrown in at the south pole, and reflected at right angles, and pass out at the north pole in a manner perfectly calculated to explain the aurora borealis, and show it in a most beautiful manner; and shows that the inside or hollow of the earth, may be as well or better lighted and warmed by the sun than the outside. From these experiments I am fully convinced of Symmes's theory, & that the earth would be incomplete without the hollow. I am, with much respect,

Your most obedient servant,

THOMAS TUFTS.

Hon. Samuel L. Mitchell.

*From the Western Spy & Cincinnati General
Advertiser of September 4th 1819-*

From the New-Hampshire Oracle.
ON THE NEW THEORY.

Mr. TURELL—It has often been a subject of inquiry and wonder with me, by what power water is raised so much above *water level*, and rises in springs to the surface of hills, and the summit of mountains. It was clear enough, that this was not produced by any inherent property of water, but by an impetus or projectile force, communicated to it.

On reading Mr. Tuft's letter to Dr. Mitchell, I was delightfully struck with that part of it, which accounts for the *causes of springs and rivers*. The principle of this phenomenon, now explained, is so simple, so obvious, and so striking, that, though I am not less slow than others to yield my belief to new theories, it instantly seized my mind with the fullest satisfaction as *the truth*.

And so complete is my conviction on more reflection, that I can hardly say any doubt remains.

The same theory (I ought to say *principle*, for it is simply the principle of projectile force, developed and placed before our eyes) will account for mountains, hills, valleys, plains, and all the inequalities on the surface of the earth. These circumstances will depend on the different substances that compose the earth. The heaviest substance, that is, of the greatest *specific gravity*, is susceptible of the greatest *projectile force*. Hence mountains are composed of stones and the heavy earths, hills the next heavy earths, and plains or level lands, of the lightest. I have often viewed with wonder the piles of huge rocks which we frequently see heaped on the tops of hills and mountains. But it is now no more cause of wonder, than it is that a boy can sling a stone farther, than he could a piece of wood, or any other substance of less specific gravity than stone.

Had this globe been formed of one uniform substance—sand for instance—of equal fineness and weight, the whole surface of the globe would be one uniform level, or perfect plain. Nor would it be subject to any changes in form, either on the surface, or internally. There would be no eruptions, no volcanoes, no earthquakes. No change could happen till the diurnal or annual motion of the earth suffered an interruption. Of these phenomena the original cause is in the mixed materials of the earth—and perhaps the *proximate* cause (as the doctors say) in the rotary motion of the earth; by which, I think, with Mr. Tufts, this globe first took its present form, and by which it follows of course, that its form is sustained.

Were the rotary motion of the earth to cease, I conceive its structure would be instantly broken up, and, by the law of central attraction, it would collapse into a solid mass, the heaviest substances pressing most rapidly to the centre, of not more, perhaps, than 500 miles diameter, or possibly much smaller. We know not how far matter may be expanded, or how much it may be compressed, when left to the power of central attraction alone.—Newton supposed that the whole matter of the universe might have been *originally* contained in a body of the size of a nutshell.

I have long supposed the earth hollow, merely because a hollow globe would answer all the purposes of a globe, and a solid one would be a useless waste of matter; which is not agreeable to the economy of nature, as apparent in her works. But Mr. SYMMES' open poles are a subject I have not considered.

Presuming you will publish Mr. Tuft's letter, I have omitted some explanations of the rotary motion of the earth, which otherwise I should have made. A. B.

From the Western Spy & Cincinnati General
Advertiser of September 11th 1819 -

THE NEW THEORY.

From the Kentucky Herald, Sept. 1.

From occasional notices in the newspapers, it appears that Capt. SYMMES still persists in his theory of the earth, and that he has applied to different Sovereigns of Europe, for assistance to explore the internal cavity. It is time to notice such extravagant speculations, when the lives of men may be endangered by their being acted on. I have waited to see if any of our astronomers, geologists, or mechanical philosophers, would show the impossibility of such a formation as Symmes supposes to exist; but have waited in vain—on the contrary, Dr. MITCHELL has encouraged him in his extravagant notions. It therefore rests with me, who am neither astronomer nor geologist, to do what some of them ought to have done long ago.

The density of earth, as found by calculation from a mean of 347 experiments, made on purpose, by Dr. Maskelyne and Mr. Cavendish, is more than five times greater than that of water. Now, as the materials we find composing the surface of the earth, will not more than average half of this density, it follows, that the central part must exceed it. So far then from having any reason to believe that our globe may be hollow within, we are at a loss to conceive of materials heavy enough to make up the great specific gravity, found by experiment, supposing it to be all solid.

It may be shown, by the theory of gravitation, that no hollow globe of the magnitude of the earth can exist. Suppose such a shell of fluid matter to be created, and put into rotary motion the same as that of the earth, and subject also to the laws of gravitation, it could not retain that shape for a moment—it would fall in from all points, and soon coalesce in a solid spheroid.—The centrifugal force which Capt. Symmes employs to keep his shell in shape, is altogether insufficient to produce any such effect. At the equator that force is only one two hundred and thirtieth of the gravitating force, & at the poles nothing. Even supposing the rotary motion was increased to such a degree as to keep the equatorial part of its original position, still no other part would retain it. The poles being attracted by each other, and by every other particle between them, while there was no force tending to keep them apart, would soon meet—so would every other opposite parallel; for in all the centrifugal, being less than the centripetal force, would only retard, but could not prevent them from meeting; and the whole would form a very oblate spheroid.

I will venture to assert, that no *hollow* celestial body of any magnitude *can* exist, unless in the form of a flattened ring, like that of Saturn.

When Capt. Symmes first published his theory, I could not help admiring his inventive genius, whatever I might think of his judgment. There is a distinction in being foremost even in absurdity. But I have since found that he is the humble copyist of the absurdities of Dr. Halley, who, in 1692, published the same

I consider Dr. Mitchell as committed, by his approbatory letter to Symmes. If he believed in Symmes's theory, he is chargeable with ignorance, unless he now show just cause for his belief:—If he did not believe in it, he was blamable in encouraging an enthusiast to undertake a journey, from which in all probability he would never return.

D. P.

Capt. Symmes having seen the foregoing strictures on his theory of the earth after they were in type, has only time, at present, to refer "D. P." to the several numbers which have been published since the declaratory *circular*:—which last appears to be the only one D. P. has attended to, or he would hardly have suffered his alarm at the progress of the captain's theory to cause him to 'strike' thus scornfully before he "*heard him*." Capt S. readily admits the *confessed* deficiencies of D. P. in astronomical and geological science; but is, nevertheless, more gratified to have the subject taken up by *arguments* however weak they may prove, than by *ridicule* however bright may be the wit. With regard to the captain's claim to originality, (which however in nowise affects the truth of his theory,) he has only to republish the following protest from the *Intelligencer*, and leave Mr D. P. to believe him as ignorant or as base, as his conscience will permit.

CINCINNATI, SEPT. 10, 1819.

[From the *National Intelligencer*.]

Cincinnati, Dec. 9th. 1818.

Messrs. Editors—I read, to-day, a paragraph in your paper, wherein a doubt is expressed whether my idea of hollow concentric planetary spheres be not adopted from Dr. Halley's* expression of a similar idea (saying that he did not suggest the polar openings nor any facts in proof of his position,) in reply to which paragraph, I declare upon my honor, that I had never read nor heard of Doctor Halley's idea of hollow concentric spheres, or any other similar idea of any person whatever, either as relates to the earth or the other planets, until several months after I published my circular of April 10th, 1818, and my second and third numbers; my pursuits and situation, for several years preceding, afforded very little opportunity of reading; but in bed, on the road, and at my work, I reasoned closely, (as has been my habit through life) and a chain of connected links, oftentimes added to, as my daily records show, led me to decide (in the face of all the authors I ever heard of) on what I have with confidence declared to the world:—which, in my Second Memoir I prove by mathematical demonstration; and in my Third, I show it is proved by ocular demonstration, at least as far as relates to certain foreign planets, particularly Saturn and Mars.

JNO. CLEVES SYMMES.

* By the following extract it appears, that *Kepler* and not *Halley* was the first surmiser of concentric “*crusts*.”

“*Kepler*, and after him *Dr. Halley*, suppose that our earth may be composed of several *crusts* or *shells*, one within another, and concentric to each other.”

Rees's Cyclop. Art. Ring.

*From Liberty Hall or Cincinnati Gazette
of Sept. 28th 1819.*

Messrs. Editors,

By publishing the subjoined extract from the Boston Commercial Gazette, your readers may see that the RUSSIANS appear to have considered my proposition of polar discovery, more favorably than my own countrymen have; for they are starting an exploring expedition northwardly on the ice from the same coast which I proposed (viz. the northern coast of Siberia,) in my declaratory circular of 10th April, 1818, as well as undertaking a voyage for like purpose by sea.

The British nation too, as lately published, have now abroad two expeditions exploring the north; one by water, bound up Davis's straits, and the other by land from Hudson's Bay.

How long will the United states remain quiet spectators of the superior enterprise of their neighbors?

JNO. CLEVES SYMMES.

Sept. 23d, 1819.

—
EXPEDITIONS UNDERTAKEN AT THE
EXPENSE OF ROMANZOW

It is well known that the voyage round the world of Otto Von Kotzebue, was undertaken at the expense of Count Romanzow. At this moment, the same noble patron of science is fitting out two new expeditions at his own charge; the one is intended to pass from Asia to America, across the solid fields of ice, to the north of the country of the Tschutki; the other is to sail up one of the rivers which fall into the sea on the North West coast, or Russian America, in order to penetrate through the unknown space between the icy cape and the river Mackenzie.

From the Western Spy & Cincinnati General
Advertiser. of October 9th 1819 -

[Communicated for the 'Spy.]

The New Theory.

LETTER FROM DR. MITCHILL TO CAP-
TAIN SYMMES.

New York, 19th Sept. 1819.

John Cleves Symmes, esqr.

SIR,

I owe you an acknowledgment for your several late communications on the hollowness of our earth, and its openings at the poles. I give you great credit for the ingenuity and originality displayed in support of your hypothesis.

You must not be alarmed because I employ the word *hypothesis*. By it is understood, any position or point a logician states and proclaims his intention to maintain. When this is a necessary and undeniable thing, as in the elements of geometry, it is called a *postulate*. When it is not so evident, but, on the contrary, may be fairly argued pro and con, as in academic exercises, they name it a *thesis*; and when assumed as a philosophical dogma, upon which men exercise their reasoning powers, it is rightly denominated an *hypothesis*.

Hypotheses are of two kinds, correct and erroneous. They are in the nature of conjectures, which are not necessarily either true or false; but may be one or the other, according to their character and value.

Theories are of different denominations, inasmuch as they are the deductions of a rational nature from acknowledged and established premises. The employment of the mind in theorizing is one of its noblest exercises. The best theorist affords the fairest display of intellectual power in man. In politics, in physics, and in the other departments of science, just theory, implying a perfect acquaintance with practice, give most exalted views of the human understanding.

I should exceedingly rejoice that your hypothesis, if just, could be confirmed: either by penetrating the outer crust quite through, or by exploring the supposed apertures within the arctic and antarctic circles of the globe. Then you would become one of the most profound theorists that ever addressed a wondering people.

For the present you must rely upon the analogies and probabilities you have stated. To those I have expected you to add more.

In the economy of nature the long and strong bones of the limbs are hollow; that is, they are not solid bone: the like is true of the skull, which is unsolid, and capacious that it may contain the encephalon, or aggregation of all the nerves. Are the veins and arteries hollow? It is for the purpose of containing and conveying blood. Are the absorbent vessels hollow? They imbibe lymph and chyle. Why are the stomach and intestines hollow? To receive food and to convert it into nourishment. And for what purpose are the windpipe and its ramifications hollow? what, but to allow azote and perhaps other matters to enter the circulating mass, and carbon and other substances to escape.

The feathers of birds are the most remarkable examples that I recollect of hollowness, combined with strength and the saving of stuff. The pith passing thro' the barrel, like an axis, carries the vital fluid from one end of the cylinder to the other, from the wing to the plume.

Among mineral bodies, hollow bodies, called *geodes*, frequently occur. They consist, usually, of a number of concentric large circles, forming a crust or tegmen. the inner surface of which is beautifully studded with crystals. In my cabinet there are several such, lined with splendid amethysts. Sometimes there are loose nodules within them.

Eggs, now and then, contain other eggs, exhibiting a shell within a shell. One of my neighbors, a few months ago, bought a small hen's egg, that was found in the middle of a large one, but no bigger than the common size. Since that I have be-

come the proprietor of a goose egg containing another egg. These are still in my possession. The egg, you know, has been called a *microcosm*, or "little world," and not without reason.

I fear I am troublesome to you. Yet I could not forbear to state a few examples in which nature forms HOLLOW spheres, cylinders and ovals, instead of SOLID ones. A leading object, or, as the philosophers term it, a final cause, seems to be economising material, or saving the stuff: and, if our planet is a spheroid of solid granite, gneis, loadstone, or any other mineral compound, the internal or central parts would appear, at least to a superficial observer like myself, a great waste of stuff. Go on, and prosper! so writes your wellwisher. SAML. L. MITCHILL.

CINCINNATI 8

SATURDAY MORNING, OCT. 9, 1819.

By referring to the fourth page of this paper, the reader will perceive, in the letter of Dr. Mitchell to Capt. Synmes, how an ingenious man can worm himself out of a hobble. The Doctor was fairly in for the New Theory; but, having got to the verge of the polar openings, was afraid, it seems, to venture in. He has, however, brought back with him a considerable number of discoveries in favor of its probability.

Erratum.—In the ninth paragraph of Dr. Mitchell's letter, beginning of the 4th line, for "large circles," read layers or circles..

*From the Liberty Hall & Cincinnati
Gazette of October 19th 1819 -*

From the National Intelligencer.

THE NEW THEORY OF THE EARTH.

Messrs. Editors,

You will gratify an old subscriber, and a large number of your friends in this vicinity, by giving the following an insertion in your useful paper:

In the Intelligencer of the 15th September I saw a piece, under the signature of Galileo, copied from the Lynchburgh Press, containing strictures on one of Dr. Mitchill's correspondents. It is not the profundity, but the novelty of Galileo's style, that attracts notice.

I expected, on seeing a piece headed "the New Theory," to see some formidable objections arrayed against it; instead of which the writer, in the style of the 15th century, cries out "atheists, heretics, and blasphemers." Be it known to Galileo, that the new theory of hollow planets and open poles, is already embraced by hundreds of pious and learned men; that this cry of atheism will only raise a smile of contempt from men whose characters are established for learning and piety.— Surely Galileo must be convinced, by one moment's reflection, that his method of treating the subject is beneath the dignity of a writer upon natural philosophy. I wish to be understood; I do not enter the lists as a champion to defend the new theory, but I wish to see a candid and dispassionate discussion of the subject.— Galileo says, "the aurora borealis happens generally to be brightest in November and February, when the sun would not perhaps cast a single ray into the cavity. This hypothesis falls to the ground." Is this writer so ignorant as not to know that the sun is far south of the equator in November and February; and that Captain Symmes allows the opening at the South pole to be 2000 miles in diameter?

Assuming this as a fact, and that the north polar opening is 1,000 miles in diameter, why would not the sun's rays at the winter solstice, (21st Dec.) enter the southern aperture, and appear around the north pole in the shape of the Aurora Borealis? I know this hypothesis is clogged with difficulties, and what hypothesis is not? How does Galileo account for the Aurora Borealis? Galileo has been guilty of a gross misnomer. His essay is disavowed by all protestant Christians.

A writer for a public paper in the 19th century who has the shameless effrontery to brand the author of a new theory as an Atheist (when nothing of the kind is contained in the theory) should sign his name a 'Dominican,' 'Omar,' or 'Valverde.' The subject itself is worthy of investigation. I hope it will attract the notice, and employ the pens of real philosophers and astronomers. I hope Dr. Mitchill's correspondents will not be discouraged by the idle raillery of the superficial, nor the ghostly censures of the bigotted. In short, I hope the time has arrived, so devoutly wished and prayed for by all good men, and thus emphatically expressed by one of the best, "that no man need be deterred from the search of truth by the fear of having an opprobrious epithet attached to his name."

RITTENHOUSE.

Niagara Falls, Sept. 25, 1819.

From the Western Spy & Literary Catech
of January 27th 1821.

"Symmes's Hole"—Some how or other, the belief in the theory of Capt. Symmes, that 'the earth is hollow, penetrable at the poles, and habitable within,' seems to be gaining ground. In a bookseller's advertisement in a Washington City paper, we observe the following:

"*A Voyage of Discovery to the Internal World by the way of the South Polar Opening; performed by Capt. Seaborn, of New York. With a sectional view of the Earth, shewing the Openings at the Poles.*"

It would appear, by this, that *Seaborn* had anticipated *Symmes*, and got to the promised land before him; but how he found his way, and what he saw there, remains for him or his book to tell.—*ib.*

*From the Western Spy & Literary Cadet. of
February 2^d 1822 -*

COMMUNICATION.

FOR THE WESTERN SPY AND LITERARY CADET.
Gentlemen—

I offer for publication in your paper the following extract from a letter lately received from the author of the Gazetteer of New York. As this letter does not seem to have been written with any idea that it might be ultimately published, I withhold from publication such part as I suppose the author, of whom I have no personal knowledge, would probably be averse to seeing in print.

Respectfully,

JNO. C. SYMMES.

Newport, Ky. Jan. 1822.

Ballston Spa, State of N. Y.

ESTEEMED FRIEND—

The singular novelty and boldness of thy theory struck me at the first blush, with a kindred regard for the very ingenious projector. I have long wished some acquaintance with thee, and some communication, on the subject of thy speculations, being strongly inclined to a belief that there is at least good foundation for a part of thy theory. But whether or not, every son of genius must regard thee with favor, for the great perseverance thou hast displayed, and a discoverer of no ordinary cast. I have long been convinced that the laws of gravity have not been well understood. The Newtonian philosophy contemplates a globe at rest, rather than in such rapid rotation on its axis as we know this world to have. There are very many consequences and circumstances connected with the Newtonian theory of gravity, that have been strangely overlooked. Every planetary body has, in my opinion, a rotary motion on its axis, regulated by its quantity of matter so that at its surface, centrifugal and centripetal action are equipoised. This globe was once a chaos, a mass of soft, liquid matter. The effect of its motion, in that state, has been

to throw off from the centre towards the surface, first the heaviest, and next the lightest substances, which are now all arranged in such a series. Masses of earth were thus formed, and raised their heads out of old ocean, rising as much above the general surface as they were heavier than the general mass. Thus islands were formed, and masses of islands formed continents, rearing their lofty heads into the air. The sun, and changing temperatures, converted masses of earth into stone and rocks;—and increasing in specific gravity by petrification, the summit towers upwards like the peaks of Andes. One continent being formed, another was produced, as an equipoise, by the inequality of the Earth's motion. The crust of our globe every where shews the emergence of land from water: the whole crust is alluvial; and the solid part is but a crust. Oceans communicate with oceans, and the solid parts stand upon the waters, leaving the centre for immortalizing thy fame! I believe there are great indentations at the poles, but I doubt the existence of an inner sphere. I wish I could see all thou hast published on this subject; and were I a man of wealth, I would see thee, and help to fit thee out on a voyage of discovery. So much original ingenuity merits public encouragement. Even should thy plan not succeed in full, a state that should enable thee to make an effort to test the truth of thy theory, would do itself honor in patronising thee. Is there no hope that the state of Kentucky will do this? The sum necessary would be a mere trifle for a state to bestow; less than the desert of a royal feast! Go on, and give thy name to a new world, within a world, and prosper: I really wish thee, and feel very anxious for thy success. I will publish anything thou mayest desire to have published, on being sent to me. If I could I would help thee to get the patronage of government, and risk the responsibility of doing so.

What kind of an expedition wouldst thou propose? What number of men? What route to take; and how proceed; and what expense would be necessary for the experiment? Thy theory is so novel that men laugh at it: perhaps it would be well to enter into a calculation in reply to the above inquiries, and to submit that calculation to the public. Every bo-

dy can reckon dollars and cents, but few can weigh philosophical theories, especially novel, and new, and bold. Suppose such a calculation were made—large enough—trustees named, and a subscription invited, the sums to be paid over when the amount shall have been subscribed ; * * * * *

* * Columbus succeeded by the gallantry of the age, called into action in his favor by the address of a woman ; and it is more than probable that the discoverer of a new world was no courtier. Was ever there found, in the same person, a courtier and a profound reasoner ? Ask Mrs. S. what she thinks, and I wish I could be present, tho' I know her answer.

In a sympathy of commiseration, I feel for thee more than thou canst readily imagine. Wedded to thy theory of which the world is evidence, thy life is an agony. Though yet living, absorbed in day dreams, in all probability thy wife** is more than half a widow, and your children, if children you have, half orphans. Doth a tear stand in thy eye, on reading this and looking around thee ? Far be it from me to afflict thee : but in all human probability thy life will be a life of affliction. Great minds have to overcome great obstacles. Original ideas are sharp-angled. Rounded by tradition, and familiar use, from age to age, ideas run smoothly ;—but wo to him who is the medium of giving many new ones to the world.

Give my respects to thy wife, and excuse my boldness in this freedom. I, too, am a speculator in theory, and "out of the fullness of the heart the mouth speaketh." In my musings. I often think of you ; and if I mistake not, was acquainted with, and have partaken of the hospitality of thy father, at Columbia, near Cincinnati. If more should be necessary to excuse me for all this freedom, let me tell thee I feel a lively interest in thy success, prosperity and happiness ; and am, with esteem and respect, thy friend.

HORATIO GATES SPAFFORD.

JOHN CLEVES SYMMES, Esq.
Newport Ky.

**An extract from my answer to Mr. Spafford's letter.*

"The calculation you recommend, may, I think, be estimated for the route along the east coast of America, at about one hundred thousand dollars,—especially if only two or three strong whaling vessels of between two and three hundred tons each, were (as they could be) made to answer. In case the party were ultimately obliged to proceed on the ice, one hundred men, well armed, and provided with hand sledges and snow shoes would be necessary, besides the sailors necessary to remain with the ships. But the probability is that by proceeding towards the mid-day sun, after being certainly beyond the verge, a passage by water could be found along the east coast of our continent. By reducing the number of men, the cost would be proportionably lessened. The west coast of America would do as well as the east, except, that such route would require more men, money and time.

If a sufficiency of game should not be found, (in case of journeying on the ice) in one direction, before the provisions on the sledges get too low, we must return to the ships and try another course; however, there is strong ground to believe, that no such sudden return would be necessary; but that a warm country and plenty of game would soon be found in the direction I propose. The time to leave the ships and start on the ice, is early in October, and we must return to the vessels again, at least before the succeeding August, so as to sail back thro' the icy region in all August and September, while the absence of the ice will admit.

The vessels should leave our shores in time to reach the icy barrier, early in August.

If the passage be sought in the southern regions, 20,000 dollars would serve, as there is reason to expect that a free passage by water to the interior, exists any where in a southerly direction from *New Holland*, hence a small party would answer; and a whaling voyage could be made on the route home, and the sailors be remunerated by shares of the proceeds."

J. C. S.

** Mrs. S. is no further opposed to my undertaking than this: she thinks I am losing my time, believing as she does that I will never be supplied with an outfit, and that I shall not be rewarded for my trouble. Born and educated on the Indian borders, (Detroit) eighteen years with her two successive husbands in the army, accustomed to consider the honor of a military man far more dear than his life, she cannot, without changing, but wish, as she does, to see me well embarked on such an enterprize.

J. C. S.

*From Western Spy & Literary Cadet of
March 23^d 1822. 1822.*

IN SENATE.

MARCH 7. . . . 1822.

Mr. R. M. Johnson, of Ky. presented a petition from John C. Symmes, of Cincinnati, in Ohio, stating his belief of the existence of an inhabited concave to this globe—his desire to embark on a voyage of discovery, to one or the other of the Polar Regions—his belief in the value and great honor to his country of the discoveries which he would make—that his pecuniary means are inadequate to the purpose without public aid—and suggesting to Congress the equipment of two vessels of 250 or 300 tons, for the expedition, and the granting of such other aid as government may deem requisite to promote the object. A motion was made to refer the petition to the Committee on Foreign Relations, which was refused—and, after some conversation, it was decided to lay it on the table—Ayes 25.

From Western Spy & Literary Cadet of
April 27 = 1823 -

From the Wilmington, (Del.) Watchman.

The present Congress has been singularly honored by the "lights of science" John Cleves Symmes has presented a petition that he may be aided and abetted in his scheme of penetrating the crust of our globe:—James Bennett, a petition to obtain a *special act* for steering a machine through the air. This is really an age of invention, and the scheme of Mr. Bennett should rank in the first class of *useful* improvements. We may anticipate the pleasure of seeing the grand dignitaries of the nation *flying* in the prosecution of their buisness—horses, coaches, small stages, steam boats, &c., at times so fatal to the lives of the travelling community, will be discarded forever:—no more will the traveller be stifled with dust, for he will wing his way through liquid ether:—no more will he fear "accidents by flood and field" for he will soar above all terrestrial objects:—no longer shall the summit of Mont Blanc defy the persevering traveller—he shall rise above all obstacles & gratify his longing, with a view of its snow clad summit. Philosophy will receive new lights and a fresh impetus be given to every art and science. Previous to granting the prayer of the petitioner we would humbly suggest the idea of requesting him to make an excursion to Washington, alighting at the principal towns on his passage. Should he not experience the fate of Icarus, the select committee will be better able to report upon this *important* matter. The eclat attending the journey would gratify the pride of the inventor; and the poor Printers would have the pleasure of announcing that on Mr. B's arrival at———

"Such a noise arose
As the shrouds make at sea in a stiff tempest,
As loud and to as many tunes:—hats, cloaks,
Bonnets (we think) flew up; and had their faces
Been loose that day, they had been lost. Such
joy
We never saw before."

From Western Spy & Literary Cadet of
October 26th 1822-

Western Spy & Literary Cadet.

THE NORTHERN VERGE.

The following playful notice of Capt. Symmes' Map of the Northern Verge, is copied from *The Philadelphia Union* of the 1st inst.

By the last western mail, we received from Captain Symmes, a map or delineation of the *northern verge*, impressed from a wooden block, carved with his pen-knife,—exhibiting at one view the whole region of *Symmesonia*, and marking the source of *Symmes-River*, “probably the largest river in the world, and which, it is presumable, discharges its waters by several mouths, one of which is conjectured to branch off from the main channel to the right and enter at *Buffin's Bay*, and another to branch off from the left, and discharge near *Nova Zembla*.”

Accompanying this map, we have a long circular, treating of reflection and refraction, circles, parallels, meridians, planes, concaves, convexes, &c. &c. &c. and telling us how the earth is probably constituted of five concentric spheres of solids, attended with numerous intermediate transparent aerial ones—how volcanoes are chimneys—how the native copper and iron found among the northern Indians, are, probably, the production of fire balls, which form and circulate between the spheres, until they ultimately condense to solids and fall—how the Great River should be entered in the autumn, by its principal mouth beyond *Spitsbergen*—how a steam boat is the kind of vessel best adapted to its navigation—how fuel must be abundant on its banks, both growing trees and driftwood—how both animals and vegetables are larger and more thrifty, as well as more various in kind, within than without the sphere—how there is a great deal of rain within the concave

—how little is to be apprehended from intemperate weather there—how there are no volcanoes there—how it is generally most healthy for man, and all other animals, *provided they are well subsisted*—how animals bred within the sphere are prone to pine away and die when long removed without it—how—

But the theory has not yet obtained the full sanction of Dr. Mitchell, and, of course, nobody is compelled to receive it. We therefore dismiss it for the present. The letter is so long, and great part of it so abstruse, that we doubt whether the majority of our readers would be satisfied if we should publish it at length to the exclusion of all other articles; and we invite such as feel an interest in these matters to call at our office, and examine the diagram with its accompanying explanations.

The subjoined brief notice is taken from *The New England Galaxy* of October 4.

THE NORTHERN VERGE. The Western Spy, received on Tuesday, is accompanied by a Supplementary Sheet, containing a map or delineation of the Northern Verge of the globe. The impression is from a wooden block, cut with a penknife, by Capt. John Cleves Symmes, who presents it, he says, "rather as an exposition of the constituent principles of his theory of the earth, than as a collection of proofs of its truth." He has also given an elaborate explanation of the map, occupying about four closely printed columns. Capt. Symmes may be laughed at as a visionary, or pitied as a lunatic, but it seems he is not to be flouted out of his theory by "squibs and crackers," nor will he fail of accomplishing his purpose by want of perseverance.

From Cincinnati Inquirer or advertiser
of November 19th 1822 -

Communicated.

SYMMES'S THEORY.

The friendly reception this theory has lately met, by many of the citizens of the west, gives good ground to believe, that a liberal disposition will be manifested, in enabling the worthy author of it to pay a visit this winter to the city of Washington. It is intimated to the writer, that captain Symmes contemplates going on to Washington in a few days, should his situation admit of it. To what more noble purpose can the liberal minded contribute, than in aiding this worthy veteran to prosecute this most noble enterprise. The discovery of a continent has not only immortalized the name of Columbus, but has opened a new era in government and manners, which will hereafter extend its influence over the surface of the globe. What, then, might not be the effect of the exploration of a region, which might open to the human race an intercourse with an interior world. On the score of fame, the discovery contended for by the theory of captain Symmes, should it prove to be true, as the silence of all scientific men on the matter, strongly indicates, he will stand unrivalled. The glory of Columbus, in comparison to that which must attach to Symmes, will be as the twinkling of a star to the brilliancy of the great luminary of day. To have produced a man, whose strength of genius alone, led him to the knowledge of such a fact by the abstract exercise of philosophical science, without a hint from any previous idea entertained by man, will give to AMERICA a subject of pride, and an eminence of native product, to which all the boasting literati of EUROPE can never substantiate her claim. Nay, the very fact that captain Symmes has brought forward such a theory, and so far substantiated it by numerous circumstances which are universally admitted to exist, and that not a single individual amongst the learned has yet found himself master of the means to show its absurdity, entitles him to the respect, and his theory to the attention of every rational man. Should captain Symmes be called from time, lea-

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ving his theory unestablished by experiment, the science he has embodied, and the facts collected and arranged in support of it, with the steady perseverance he has maintained in the face of the scoffs and jeers of ignorant and assuming men, would bear a testimonial to his talents and worth, which the best of his species would ever delight to acknowledge.

I ask, therefore, of my fellow citizens, if they feel so little interest in the fame of their country, or in the *merited* advancement of this worthy man, as to permit him to remain unaided in the important research, which so many years of investigation have constantly rendered more probable; & which to be finally completed, requires more means than are within his reach: or will they nobly unite their efforts with his, to obtain for our common country an unequalled fame, and to its author the reward he so justly merits.

SCIENTIA.

Some of our readers may remember that a novel theory of the structure of the Earth was propounded some years ago by one Capt. SYMMES, and that it was explained and advocated in this City and elsewhere by JOHN N. REYNOLDS, Esq., who afterwards became a prominent politician and lawyer here. The theory was, that there was an *opening* in the earth at each pole, and that vessels might sail through it into the interior of the globe if they could once pass the barrier of ice by which it is surrounded. The theory was known as *Symmes's Hole*, and the designation was quite generally applied to the inventor and the advocate of it. A writer in the *Montreal Herald* contends that it has been confirmed by the accounts of the Arctic exploring expeditions, and that Sir JOHN FRANKLIN has probably got into the hole and *can't get out*! He quotes this statement from the accounts of Capt. PENNY's expedition:

"Capt. Penny found a heavy barrier of ice in Wellington Channel, not very far from its opening from Barrow's Straits, but a most remarkable change was observed as he passed to a more Northern latitude; the ice which he had left (as is usual at this early season, April and May,) firm and solid, was here decayed and unsafe, and at last travelers came upon open water, drift wood, Arctic animals and birds—the latter in enormous numbers. Here were all the signs of an improved climate."

He makes the following comment:

"I do not know how it will strike you, sir, but to me, with whom the idea of openings at the poles has been familiar for some thirty years, the information communicated by Capt. Penny is excitingly curious. Perhaps, after all, Sir John Franklin has found this opening! If there be such an opening, it is quite probable that the strength of the current *into the opening* may prevent return to sailing vessels: it would not, however, be an obstacle to the return of steamers. How important then it becomes that Capt. Penny's present efforts to obtain a steamer, and return to the "open water" and the "improved climate," may be successful."

UNITED STATES.

From the True American.

*To the well-wishers of the Author of the
New Theory of the Earth:*

My health not being, for several months past, equal to the task of lecturing, I sought a restoration of it at this place, eleven weeks since, and am not yet able to resume my lectures. My tour, which extended as far as Maine and Lower Canada, has advanced the theory considerably but it has been the reverse of covering expenses. As a laborer in a cause likely to benefit the community greatly, I now ask pecuniary assistance enough to enable me to proceed home. Those who are disposed to help me, will please direct to me at Trenton, and to the care of Mr. William L. Prall, the Editor of the Trenton True American, who will announce in his paper all the sums received, and where received from.

This supplication is made under an urgent necessity, which is my apology for making it. If I should live long enough to see the Theory thoroughly established in public opinion, and reap a harvest from my labor, in any degree commensurate with the advantage the community at large must enjoy from it, I may be enabled to turn all the contributions I now receive into some charitable fund; but whilst I labor under such pressing circumstances as now exist, I feel that I shall not be deemed blamable for seeking assistance as I now do.

Very respectfully,

JNO. CLEVES SYMMES.

Crosswicks, New Jersey, June 15, 1827.

Note. I will feel grateful towards any Editors who may please to copy the above, in whole or in part.

SYMMES' THEORY. 722

The public have some knowledge of the exertions which Captain Symmes, the projector of the "theory of concentric spheres," has been for some years making, to procure the fitting out of a polar exploring expedition, to test its correctness; and something has also been said of the faithless and ungrateful manner in which he has been treated and deserted by his pupil and hired lecturer, Mr. J. N. Reynolds. Whether his theory be correct or not, we have ever considered the treatment of the *Polar Philosopher*, for such Captain Symmes may now be truly named, of the basest character. The expedition which Mr. Reynolds, after forsaking his patron, had labored to fit out, under governmental patronage to the South, and like Americus, rob capt. Symmes of the honor, and name of the discoveries, if any valuable should be made, has, as his designs and conduct merited, failed—the government have withdrawn their patronage.

To call public attention again to this subject, we insert a few reflections made sometime since, on first reading a little volume on "concentric spheres," in which the principal facts upon which "SYMMES' THEORY" is founded, are given. The extreme ill health and general debility under which Capt. Symmes is now, and long has been laboring, with hopes of a speedy recovery so little flattering as to forbid the expectation that he will soon be able himself to appear before the public, is our principal inducement.

The advocates of new theories, have innumerable difficulties to encounter; the labyrinths of the untrodden path which leads to their developement have not only to be explored, to establish their correctness in the mind of their projector; but, the prejudices, and ridicule, and preconceived opinions of others are also to be combated.

The inventor has not only to convince himself, and surmount each difficulty, and explain each absurdity as it is presented to his own mind; but he has to remove the prejudice, ignorance, or preoccupying opinions to which the consent of ages has given the impress of correctness, before that which is new or innovating can be received, however philosophically it may be explained. He has not only to convince himself; but to remove the rubbish of ages, to open a road to conviction in others. The man of science in investigating the "theory of Concentric spheres," is burthened with the prejudices of the old school; the deeper he is learned in the popular theories of the earth, of the present day, and the firmer he is established in the belief of their correctness, the less capable is he of *receiving* those doctrines which are contrary to them.

Captain Symmes states it as fact, that there are many phenomena observable about our globe, and throughout the solar system which can be more philosophically explained upon the principles of his new theory, than by those taught in the old school.—If this be so, it is worthy the attention of men of science. It is however, philosophical to admit that there may be many principles assumed, in the new theory, the truth or error of which will be only established, as the theory is more tested and developed, by polar exploring expeditions. And it may, likewise, be admitted, that some phenomena may ever remain equally unexplained, whether the old or new theories be adopted by the learned. That which, upon full investigation leaves least to hypothesis and conjecture, will certainly be most entitled to the adoption of correct philosophy. The author of the new theory is of the opinion, that the variety of phenomena which go so far to establish its correctness, and many of those which support the old theories, not being inconsistent with the new, gives it

much claims to correctness, and entitles it to the reflections and investigation of scientific inquiry.

All theories of the earth, as to its figure, properties, or motions, are, or should be founded upon the *laws of matter*. The laws of matter are not framed, like the laws of states and nations, by theorizing man, they are gathered from the effects of matter, by observing its operations. With regard to the *figure of the earth*, Symmes' theory, assumes it as true, that it is composed of spheres, more or less in number, which are

all concave convex globular, and concentric with each other.

Were a view to be taken of the whole universe, with all its suns and fixed stars, with their systems revolving around them in their present form, is it more difficult to conceive them spoken into shapes and forms, concentric with each other, by the Almighty *fiat* which created all things as they were created, than that each should be composed of *solid matter*? Or, if we suppose, as was the opinion of the ancients, that unbounded space, before time and the world began, was filled with molocula or particles of matter imperceptibly small, but in a chaotic state, without form, and that matter in this unformed state, had those general laws which now govern it impressed upon it in this state of chaos, and obedient to those general laws, particles began to be attracted by, and adhere to each other, according to the quantity and distance, and to assume regular forms, and take up regular courses, and perform regular revolutions, around certain centres, preserving that strict uniformity and similarity throughout the whole, which is due to the same general laws, until all the matter that was "void and without form," (or as the original Hebrew has it, void and *holl-w*) had become attached to some of those seen and unseen orbs which move in the universe, we can as easily admit that each is composed of spheres con-


centric with each other, as that the matter composing each sphere is *solid*.

Natural philosophy supposes that all the matter in the universe, is governed by the same laws, only modified by locality and circumstance the effects of which are susceptible of calculation, either as to its motion, its attraction or repulsion. Glancing therefore at the uniformity which exists throughout creation so far as our limited minds are capable of comprehending & minutely comparing; each order, each genus, and each species of things, animate, and inanimate, has its form and principles so nearly similar to every other formed under similar circumstances, that we are compelled to admit that those objects whose general appearances are the same, though their magnitude and distance do not admit comparison, are also similarly formed, in like uniformity with those parts of nature with which we are more minutely acquainted.

Reasoning from analogy, do we not arrive at the conclusion that, that *cause* which has thrown the different orbs belonging to the SOLAR SYSTEM, at different distances from the sun its centre, and wheels them around it in circles concentric with each other, existing in the nature of matter, or continually exerted from another and higher source, *might* throw the matter composing each orb concentric with itself. Nay, for aught, of the short sighted wisdom of feeble man, in the mysteries of nature's mighty and complicated operations, the SUN, and the numerous FIXED STARS, as well those which yet remain undiscovered, as those which the astronomers telescope piercing the remote regions of space has pointed out, with all their planetary trains, revolve around some centre concentric with themselves, carrying the same uniformity and concentricity throughout all that matter which was either *spoken* from chaos into its

present forms, and thrown into their present motions, or obeying those general laws with which it was originally impressed, assumed and retains its present spheres and orbits.

Astronomy teaches us, that the matter composing some of the planets, and our earth is only a planet, is *open at the poles*, and that that of others, is surrounded with *belts*, which may be only the larger and outer spheres. Assuming it as a correct hypothesis that all matter is governed by the same laws, the matter composing our earth, and his satellite the moon, with regard to his own system, and the matter composing Jupiter and his satellites, with regard to his system, and the same of all the other planets. Pursuing analogy, may we not then philosophically conclude that every portion of the grand system is similarly governed and *formed* with its individual parts?—and none who are correctly informed doubt the appearance of *open poles* in some and the existence of *belts*, which may be only *outer spheres*, in others—nor will the correct observations and experience of astronomy admit of a doubt, that they are thrown in orbits concentric with each other, around the sun which is the centre of the matter composing that system of which the earth is a part. May we not therefore, analogically infer that the matter composing our earth exists in spheres concentric with themselves, in conformity to the formation of the polar opening of Mars, and the belts of Jupiter? it is only supposing our earth to be open at the poles, and composed of spheres concentric with each other, conformably to the appearance of other planets, and obedient to the general laws of matter governing the solar system, of which our earth makes a part.



The History of Symmes' Hole.

The famous theory of Symmes' Hole, which excited so much curiosity and attention in its day, had its origin in a very singular and trivial circumstance, which we believe has never been made known and is worthy of relation.

Something more than a century ago a French consul at Cairo amused himself, during his leisure hours, in the composition of a quizzical, half philosophical, satire on scientific schemes, published, in 1720, under the title of Telliamed, which is formed by transposing the letters of the author's name. This book purported to be the record of the conversations of an Indian philosopher who discussed and propounded various theories of cosmogony, the character of mermaids, the marine origin of the human race, and among other things broached the celebrated theory that the earth was hollow, and that ships might sail into the cavity at the poles. Some thirty years ago Henry Meigs, Esq., obtained possession of a copy of this work, (the only one, it is believed, ever in this country,) and read it to his friend, the celebrated Dr. Mitchell, who being some time afterwards, about 1817, in Washington, related, for the amusement of the company, the theory of De Maillet. In the company was a southern gentleman, of middle age and ardent temperament, who had been known to the world only as having been a captain in the army, raised by John Adams in 1798 for the anticipated war with France. This gentleman was John Cleves Symmes. He took the joke in earnest, believed the theory, advocated it with much ardor, and petitioned Congress for an appropriation to fit out an expedition to the North Pole, for the discovery of what was then termed 'Symmes' Hole.' One of the most distinguished disciples, I. N. Reynolds, afterwards the author of a book giving an account of his voyage round the world, gave lectures in various places in the Union on the subject, and succeeded so far as to induce forty members of the Pennsylvania Legislature to vote for resolutions recommending Congress to make the asked for appropriation. The theory had its day, and soon after Symmes expired also.

SCIENTIFIC.

FOR THE NATIONAL INTELLIGENCER.

Some weeks since you honored an article from me with a place in your columns. It was on Arctic matters, form of the earth, &c. In the article referred to I did not give *all* the reasons which I have for believing in the theory there set forth, but my object was to elicit some discussion on the subject; but, from some cause or other, my article remains unnoticed. Vanity forbids me to think that the article is *beneath criticism*.

Although unsolicited, I beg the liberty of giving some further reasons for thinking the earth to be a hollow spheroid. I am aware that Mr. SYMMES had some theory in regard to the hollow form of the earth, but I know nothing of the *reasons* he adduced for his belief; all that I can find on the subject is in the following extract from Baron Humboldt's *Cosmos*:

"These venturesome and arbitrary conjectures have given rise, in wholly unscientific circles, to still more fantastic notions. The hollow sphere has by degrees been peopled with plants and animals, and two small subterranean revolving planets, Pluto and Proserpine, were imaginatively supposed to shed over it their mild light. As, however, it was further imagined that an ever uniform temperature reigned in these internal regions, the air, which was made self-luminous by compression, might well render the planets of this lower world unnecessary. Near the north pole, at 82° latitude, whence the polar light emanates, was an enormous opening, through which a descent might be made into the hollow sphere, and Sir Humphrey Davy and myself were publicly and frequently invited by Capt. Symmes to enter upon this subterranean expedition."

From all that can be gathered from the above extract, even if Capt. Symmes had taken out a patent right for his theory, mine would be no infringement.

In order the more clearly to bring the subject forward, I shall have to advert to my former article. It is there assumed that the matter of which our earth is formed was once in a molten state, saying nothing of the probability that it was previously in a gaseous or nebulous state. Now, from the known laws of matter and motion, we hold that, when by the fiat of the GREAT FIRST CAUSE a revolving motion was given to the matter of which the earth is formed, it would assume the shape of a hollow spheroid, not unlike an apple deeply indented at the ends, only that the cavity would extend through, enlarging inwardly. Hence, in consequence of the inclination of the poles to the ecliptic, the sun in the summer season would shine far into the northern portion of the earth; and in consequence of its rays striking vertically upon a portion of the opening or ring there would be a tropical climate at least during the summer, and thus accounting for the unfrozen and inhabited sea now known to exist there. Such a shape would not be a very great anomaly in our planetary system. The rings of Saturn, now known to be solid bodies, are not very unlike what we are claiming for our earth; and we might readily conceive that there are inhabitants on the outer surface of those rings who know not but they are on the surface of

a solid globe. Again, the physical character of Mars more nearly corresponds to our earth than any other planet, and astronomers tell us there are occasionally peculiar luminous spots near the poles, which fact is readily accounted for by our theory; as the rays of the sun shining into its polar ring would strike perpendicularly upon a portion of it, thereby illuminating a portion of it far more strongly than any other part of the polar regions.

In addition to the foregoing, the aurora borealis might be pressed into our service by supposing that the rays of the sun as it shines in at the south are reflected through and out at the north, thus producing all the phenomena of the aurora, even the fugacious movements and fantastic shapes which it often assumes, all being caused by moving clouds or vapor which the reflected rays may encounter in their passage through and out at the northern opening.

Lastly, I would say I am prepared to illustrate, and, as *I believe*, to demonstrate the truth of my theory. If any one wishes to be his own experimenter let him place a glass jar on a wheel like that used by the potter, fill it partly with water, to which add enough alcohol to make the mixture nearly the specific gravity of oil, then add a portion of oil. Thus prepared, give the jar a careful even rotary motion, and immediately the oil will open in the centre and you will have a hollow spheroid.

This is a very interesting experiment, and with more care than I have yet been able to bestow on it may be turned to great account in our cosmographical researches. There might be some other liquid used instead of water and alcohol, and also something instead of the oil, that would gradually harden while the rotary motion was going on, thereby making a solid miniature earth.

All the foregoing reasoning and illustrations turn upon the assumption (not doubted by really scientific men) that the earth and other planets were once a molten mass of matter, readily assuming any shape that the laws of matter and motion would give, which I have been trying to prove would be a hollow spheroid open at the poles.

If any one is prepared to disprove my theory or show fallacy in my reasoning, I would take it kindly if he would do so.

We hope that Congress will not abandon the Arctic enterprise until the phenomena of an *unfrozen* and inhabited Arctic ocean is fully explained. It seems to me perfectly practicable to make a full exploration, by stationing a storeship at the most northern limits of safe navigation, and from that have a regular chain of posts, at convenient distances, well supplied with every thing necessary for the purpose. Those depots at *first* should not exceed a moderate day's journey apart, and the further north the closer they should be. In short, it should be a regular siege operation, not against an artificial fortification, but against an icy zone that perhaps separates us from a fruitful and balmy country.

O. J. PHELPS.

PIKETON, OHIO, DEC. 1, 1855.

HO! FOR THE NORTH POLE AGAIN.

Scarcely have Dr. Kane and his men dropped their bear-skins and got comfortably warm before another exploration of the forbidding regions of the North is earnestly talked of. The facts and observations of Dr. Kane in reference to the great open sea beyond the ice region, meagre as they necessarily are, have excited great interest among scientific men. What has heretofore been suggested by a few is now considered pretty well established—that there is a vast open sea at the North, commencing at about 80° and probably extending to the pole. Dr. Kane testifies that the temperature of the air rose as he approached this sea; that its water was warmer than the ocean further south; that ducks, seals, and herbiferous animals were abundant about it; and that strong winds from the North brought no floating ice to its shores. The inference is that the pole is not, as we have supposed, the centre of frigidity, but that the coldest point is some fifteen degrees or more south of it, and that the temperature at the pole is comparatively mild. There is in this a curious analogy with the fact that the circle of highest heat does not coincide with the equator, as we should naturally expect, and as the ancients believed, but more nearly with the belts of the tropics, while the mean annual temperature of the equatorial belt is considerably below that of the summer heat of the tropics.

Various theories are already earnestly discussed by the savans to account for the open sea at the North pole. Humboldt long ago suggested that the internal heat of the earth is discharged at the poles. The question is, shall the truth be sought by another Arctic expedition? It will cost treasure, and probably human life, but curiosity, so far from being appeased, is only stimulated by the results of previous researches. It is suggested that, by pursuing a more easterly route, many of the perils hitherto encountered would be avoided, and that with the experience of the past the voyage might now be undertaken with a fair prospect of safety and success. Rash and futile as the enterprise appears to prudent men, we have little doubt that it will be attempted, and by Americans, who will not allow any body to take from them the honors and rewards of scientific discovery.—*Springfield Repub.*

ASTRONOMICAL SCIENCE.—The President of the British Association for the Advancement of Science, in his opening address at the yearly scientific gathering lately held at Glasgow, stated as one of the results of Lord Rosse's telescope, that for the first time since the days of Newton a suspicion has arisen in the minds of astronomers that laws other than that of gravitation may bear rule in space; and that the nebula phenomena revealed to us by that telescope must be governed by forces different from those of which we have any knowledge.

To the Editors of the National Intelligencer.

Messrs. EDITORS: Doctor KANE having ascertained, by actual observation, the existence of a body of water in the polar regions entirely free from ice, the existence of which had been previously only surmised in consequence of the phenomena observed by navigators who had preceded him in those regions, the inquiry naturally presents itself, what is the cause of the non-existence of ice in that water? It is proposed in this paper to offer an answer to this question. If the writer be not successful, the attempt will at least be praiseworthy, and he will fail in a good cause.

The air in the equatorial or tropical regions, in consequence of the high temperature of the climate, ascends, as is well known, from the surface of the earth. As it rises it is subjected to less and less pressure, and gradually expands, and in consequence of expansion the sensible heat which it possessed at the surface of the earth gradually becomes latent, until finally it becomes cold enough to condense a portion of the vapor which it carries up with it; the vapor thus condensed yields a large quantity of heat, previously latent in it, to the air, which gives a new impulse to its upward tendency; and, rising still higher, the expansion continues, until the cold is so great as to condense the vapor which may still remain in it, and finally solidify it, producing a new evolution of sensible heat, which causes a still further ascent of the air, until it has absorbed, in consequence of fresh expansion, this new accession of sensible heat. Now, this air has not only not lost any heat in its ascent from the surface of the earth, but actually possesses more than it had before its ascent, because of having received additional heat from condensation of vapor; and, if it be again brought to the same density it had before its ascension, it will yield up not only the same quantity of sensible heat it had before rising from the earth, but an additional quantity, received from the condensation of vapor on its ascent. But, since the air rises in the equatorial regions, its place must be supplied at the surface of the earth. This is done by a flow of air along the surface of the earth towards the equator from the north and south, which will come in the shape of a northeasterly and southeasterly wind; this draws the air away from the polar regions; its place there must in its turn be supplied. This will be done by the air which arose at the equator, which, flowing north and south, high above the earth, and carrying with it all the heat it possessed on leaving the equatorial regions, descends in the regions of the poles; and as it descends, coming under the pressure of the air flowing in above it, yields up its latent heat even to a greater amount than it had after rising at the equator, since the density becomes greater than it was at the surface at the

equator, on account of the attraction of gravity being greater, and not counteracted to so great a degree by the centrifugal force as at the equator, which force indeed at either pole would be nothing. Hence the temperature of the air on the surface of the earth at the poles would be greater than at the equator. This air will impart its sensible heat to land and water in those regions, and as it flows along towards the south and north, yielding up as it goes its sensible heat, it gradually becomes cooled, until finally its temperature is reduced to the freezing point. Here will the ice begin to appear, and as the air flows on the temperature is further reduced by the ice and snow over which it passes until the cold becomes intense. There will then be a point at a certain distance from either pole at which the cold will be a maximum. After this the air reaches those regions of the earth that are more under the influence of the sun, and its temperature begins gradually to rise, in consequence of receiving heat from the warmer objects on the earth; thus the climate becomes warmer and warmer, until again we arrive at the torrid zone. Thus it appears that the open polar sea discovered by Dr. Kane is a consequence of natural laws governing the circulation of air around the globe; and not only the existence of water free from ice in the polar regions might have been foreseen, but that there exists at both poles of the earth a mild and perhaps a pleasant climate. Possibly some future explorers will find there new continents inhabited by men.

The air moving towards the poles from the equator will have the same, or nearly the same, velocity parallel to the equator that the earth has at the equator; for it would seem that there is no force in the high regions of the atmosphere to check its motion or change its direction; but it has a certain velocity also in the direction of the poles. The resultant of these forces will be in a northeasterly and southeasterly direction. At the poles the air also obeys the force of gravity, which draws it downwards, thus producing a spiral wind towards the earth, modified, it may be, by obstacles with which it may meet, as mountains, hills, forests, &c.

It may be objected to this theory that if the air is so warm at the poles, even warmer than at the equator, why does it not rise there as well as at the equator? To this objection it may be answered that the same cause that brings it down will keep it from rising, viz. to supply the vacuum that would otherwise be left by the flow of air from the poles towards the equator. Another reason is that it becomes cooled as soon as it reaches the surface of the earth by imparting its heat to the land and water, and, being then colder and more dense than the air above it, according to the laws of pneumatics it cannot rise, but will flow north and south after the air that flows into the torrid zones. This accounts for the comparatively warm wind which Dr. Kane observed to blow from the north over the open water.

The warm temperature existing in the regions of the poles cannot be explained by supposing the earth there to be heated by internal fires, for in this case there could be no wind from the poles towards the north and south, since the air, being heated at the surface, would rise up as it does at the equator, and there would be a wind blowing towards the poles from the icy regions. This is not in accordance with the facts observed. All the facts made known by Dr. Kane that have come to the knowledge of the writer are confirmatory of the theorem above explained.

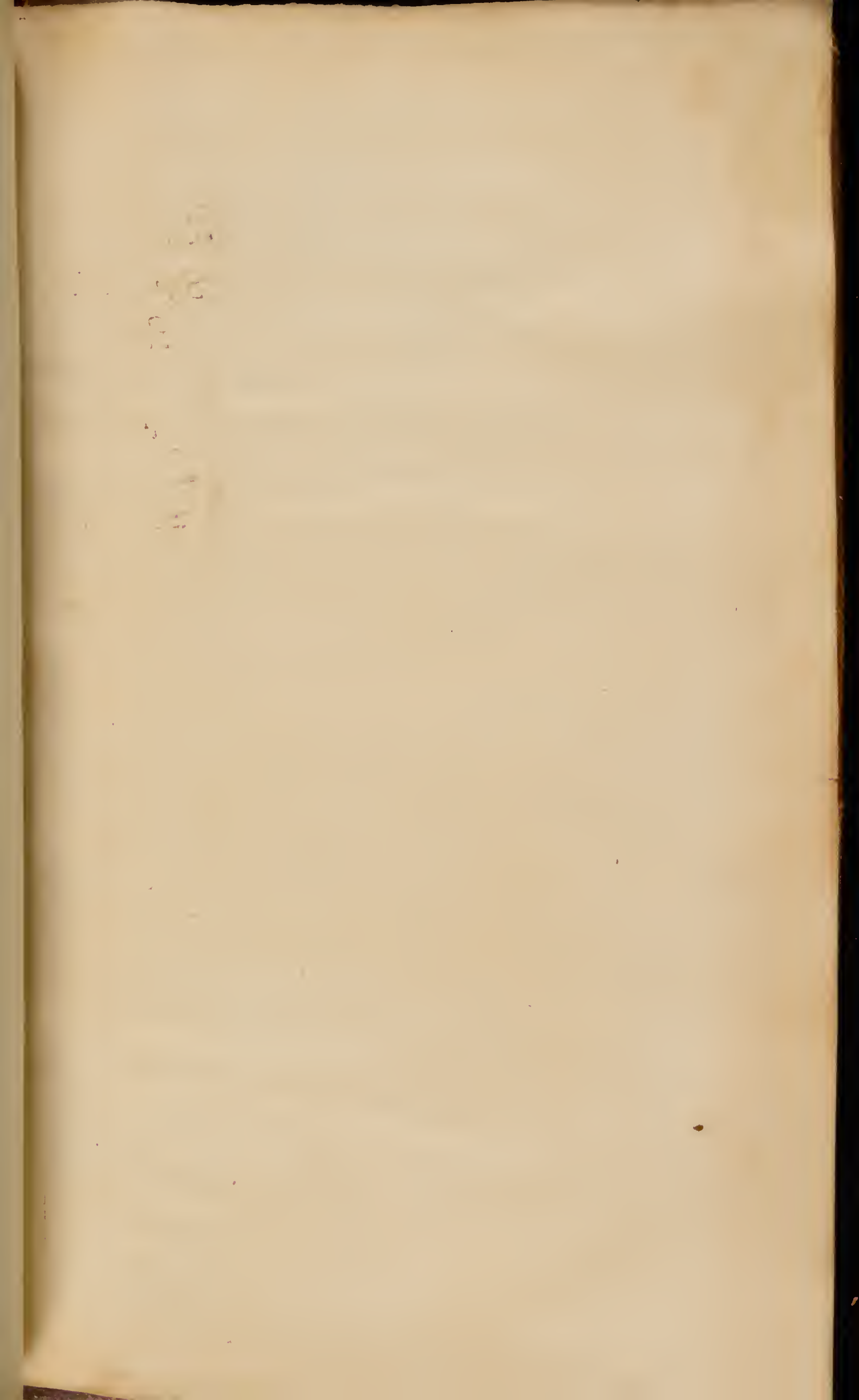
The open water in the polar regions cannot be accounted for by supposing a current flowing from the Pacific ocean towards the poles, and thence into the Atlantic; for this water must pass the icy and intensely cold region of the polar circle, and must become frozen; but even if it should pass this without freezing, if there is no source of heat at the pole, the cold must become greater and greater the further we go north, and consequently the greatest degree of cold would be at the pole, and the surface of the water must necessarily be frozen.

There are, then, two frigid belts or zones surrounding the earth at a certain distance from each pole, the breadth of which can be determined only by actual observation; hence there must be on the earth seven zones—three torrid, two temperate, two frigid; or four temperate, one torrid, and two frigid, according to the temperature, which actual exploration may determine, immediately around the poles.

JAMES CLARK,

Professor of Mathematics.

GEORGETOWN COLLEGE, JAN. 10, 1856.



THE OPEN POLAR SEA.

FOR THE NATIONAL INTELLIGENCER.

The most wonderful phenomenon revealed by the adventurers to the Polar regions is the "open sea" beyond 82 degrees north latitude. Stupendous icebergs and glaciers, grizzly bears and congealed mercury, are in character and proper place in those dreary regions; but an open sea transcends them all in the marvellous, and seems entirely out of place in such high latitudes. Yet it was discovered by former navigators, and its existence has been confirmed by Dr. Kane and his companions beyond controversy.

Assuming, then, the *open sea* to exist, as described, how are we to account for it? All the explorers have encountered vast and almost impassable barriers of ice, "from Greenland's icy mountains" to within some four hundred miles of the Pole; and from that point, looking northward, they saw "an open sea as far as the eye could reach!" This is the most surprising of all the discoveries in those voyages. Why should the zone between 70 and 80 north latitude be *packed with ice*, and the area beyond 80 and up to the Pole present *an open sea free of ice*? This is the question; and it seems to be one of the most curious problems presented to mankind.

The question of a northwest passage to China having been settled by McClure and others, and Sir John Franklin being dead, and Dr. Kane and his companions having returned, there seems to be no pretext left for another such voyage, unless young ambition should kindle with the rash idea of exploring this open sea. Once on its billow, it would seem to be all plain sailing. The difficulty is to transport vessels over the intervening glaciers. But even if Dr. Kane, while looking over this sea, could have conjured up a sea-worthy ship by magic, and sailed straight up to the Pole and safe back, he might have returned without being able to account for its existence.

In the absence of satisfactory facts to account for the phenomenon, let us imagine a theory. The earth is flattened at the poles. If this is caused by the centrifugal tendencies of its matter, this centrifugal action tends constantly to elevate the waters on the equator, and possibly to such an extent as to require a corresponding outlet through some channel hitherto unknown. May it not be possible for the unfathomable depths of the ocean, thus accumulated on the equatorial regions, to force a submarine communication with the Polar regions and the passage outward of a volume of tepid water sufficient to maintain forever "an open sea," from the Pole, far enough down southward to repel the icebergs to a respectful distance towards the south? With this suggestion, I turn the matter over to Mr. Maury, who is infinitely better qualified to treat it.

J. T. A.

ON ARCTIC EXPEDITIONS.

Messrs. EDITORS: It is truly a subject of gratulation that the Kane expedition has been saved from the probable fate of FRANKLIN. Many seem to think that all that ever can be has now been accomplished in the way of Arctic explorations; but to the cosmographer it will only awaken a new and intense curiosity to know more on the subject, particularly in regard to that unfrozen ocean, and not only unfrozen, but teeming with animal life.

The question naturally arises how it can be that, after passing over an icy belt of one hundred and twenty-five miles, we then come to an open sea. Such a phenomenon can proceed only from some cause as yet unknown to the world, and which, in our present state of knowledge, can only be a matter of conjecture and speculation; and, inasmuch as one has as good right as another to speculate on the subject, I will suggest what has long appeared to me as more than probable, viz. that this earth is a hollow spheroid, with large circular openings at the poles, in shape not unlike an apple deeply indented at the ends.

I should not offer such (apparently) crazy opinion had I not what I consider a pretty good reason for it, founded in philosophy. And, in the first place, we take it for granted that this earth was once in a molten if not gaseous state. Such being the fact, the question comes up, what shape would it naturally assume when rotating on an axis? A casual thinker would say it would assume the shape that lead does in falling from a shot-tower; but such we *know* would not be the case, as the earth is not a sphere like a shot, but a spheroid. In bringing out our views more fully we have to controvert the commonly received opinion that matter increases in density as it approaches the centre of the earth. To us it appears perfectly philosophical that, at the centre of the earth, matter would not only *not* be denser, but be greatly expanded, as all the attraction that *could* be exerted there would be *from* the centre. This being the case, to which we may add the centrifugal tendency given by the diurnal rotation of the earth, we have a sufficient cause to expand the earth into a hollow spheroid, or rather to have made it assume that figure when it was first projected in its diurnal course from the hand of the GREAT FIRST CAUSE.

That same law of matter and motion of which we are speaking would cause the poles to open, while the body of the earth would become a hollow spheroid. Now, who shall say that that *open sea* is not just where the mariner would commence sailing into the interior of the earth? And, *if* so, he would not be aware of the fact until he would see the celestial bodies disappearing below the horizon.

Were I to offer a conjecture as to the size of the polar opening I should place them at about one thousand miles diameter, and the more interior cavity at between two and three thousand.

On the supposition of the truth of my theory, the sun, for several months in the summer season, would shine probably not less than a thousand miles into the polar opening, and, over a portion of that surface, its rays would be vertical, causing not only an iceless sea, but absolutely a tropical climate.

Should this theory be correct and there could be a vessel got into the polar sea, it might very readily sail into the interior of the earth. The only difference in the form of the ocean or lands there would be that they would be concave instead of convex, as with us. The vessel, or any other object there, would be of less specific gravity from the fact that the portion of earth on the opposite side of the cavity would exert a strong attracting power on them, thereby rendering them lighter than the same objects on the outer surface of the earth. And will not this theory, too, explain why it is that the terrestrial and magnetic poles do not correspond?

Now, Messrs. Editors, I am admonished to close my lucubrations for the present, not knowing that they will ever be permitted to shine in your columns. If they are, and any one is disposed to call them visionary or insane, let them be prepared to give a *better* reason why, after passing over hundreds of miles of icebound ocean, Dr. KANE should come all at once upon an iceless sea abounding in animal life.

O. J. PHELPS.

PIKETON, (OHIO,) Oct. 22, 1855.

